

THE MONTHLY JOURNAL OF MEDICINE.

VOL. I.

MARCH, 1823.

No. III.

A Memoir on the Employment of Terebinthinous Remedies in Disease. By JAMES COPLAND, M. D. Member of the Royal College of Physicians, London.

(From the London Medical and Physical Journal.)

To inquire into the operations of old and familiar remedies, which the experience of ages has proved to be of service in disease, notwithstanding their liability to injudicious prescription, and consequent disrepute; to examine into their mode of effecting salutary changes in the system, and to attempt to give precision to our ideas respecting that influence in disease; to show how far they are really deserving of their reputation, what share of benefit results from their individual efficacy, and what from nature herself, or how great may be their separate influence in rousing and directing the vital energy of the system—would be a work of no small utility, both as tending to increase our stock of useful knowledge, and in banishing from the field the empirical exhibition of remedies, amongst even the legitimate members of our profession. To those who are entering upon the study of the healing art, it might be expected to prove of considerable advantage, as it would tend to arrest their attention to the philosophical consideration of the process by which their effects are produced, and to connect the remedy with the pathology of the disease in its various stages, and in its more complicated connexions. It may be urged that such a process would require a degree of knowledge greater than we at present possess, respecting not only the effects of individual remedies upon the general

systems of the body and its separate textures, but also of the physiological pathology of disease, or those early aberrations from a healthy state of an organ, which mark the commencement and first stages of maladies. I am, however, of opinion, that the state of our knowledge in the fundamental and collateral sciences of medicine, is sufficiently advanced to furnish us with materials, from which to draw incomparably more correct and more important conclusions than those with which we have been hitherto contented. The difficulties with which such an undertaking would be surrounded, are certainly not sufficient to discourage many members of the profession from its execution, by which an important desideratum in our otherwise excellent pharmacological and therapeutical works would be supplied.

Having premised these observations. with the view of directing the attention of the profession to a closer examination into the process by which remedies operate their effects upon the animal economy, I shall now proceed to make a few practical remarks on the employment of the *oleum terebinthinæ* as a remedy in various diseases, in continuation of those offered to the public in the preceding Number of this Journal. Although my observations are apparently confined to the essential oil, they may be considered as applicable to all the varieties of turpentine, which chiefly owe their virtues to the quantity of the oil that they contain.

The turpentine was extensively employed in medicine by the ancients, and were probably in use long before the days of Dioscorides and Pliny, who appear to have recommended them in many diseases, besides those in which they are prescribed by the moderns.

It is most probable, from the eulogy which Pliny pronounces on the *Pistacia terebinthus* and *lentiscus*, and from their former abundance in the South of Europe, in the North of Africa, and in Asia Minor, that the turpentine yielded by these species was in most general use, not only among the Greeks, but also among the Egyptians and Romans. That they did not confine themselves, however, to the production of any particular species, appears even from the earlier writings of Celsus, who, although he makes no mention of this substance, yet frequently recommends various parts of the different species from which it is obtained, as a remedy for similar diseases with those in which they are recommended in the more modern writings of Dioscorides and Pliny. Thus he frequently prescribes "*Flos, nuclei ex pinu silvestri, et pineus cortex :*" and also adds, "*Nuclei pinei stomacho idonei, urinam movent, semen contrahere videntur ; non*

inflant, cum melle edendi," &c. Other instances could be given, proving that the bark, leaves, &c. of the pine were used by the Roman physician, both as an internal remedy, and as an external application; but no one can hesitate in assigning the benefit which experience had shown to be derived from them to the essential oil they contained.

The most decided proofs of the general admission of all the varieties of the turpentine into the *materia medica* of the ancients, may be gathered from the writings of Dioscorides, Pliny, and Aretæus. The first named author, in his second book, classifies the turpentine into moist and dry. Pliny adopts the same arrangement; and both enumerate very fully the different species from which each variety is obtained. "*Summæ species duæ, sicca, et liquida. Sicca e pinu et picca fit: liquida e terebintho, larice, lentisco, cupresso.*" This enumeration accords very nearly with that given by Dioscorides, as do also his remarks upon the manner of employing them internally and externally in the diseases in which they were prescribed.

Aretæus has been still more particular in his recommendation of this substance. He gave it internally, and frequently combined with nitre and rue, making honey the vehicle, in lethargy, apoplexy, melancholia, and in pleuritis. The liquid turpentine was prescribed in pulmonary affections, given in the combination just mentioned, but resorted to after venesection. It was also frequently recommended by him, in those diseases, as an outward application, at the same time. He prescribed it also in enemas, in cephalæa, and volvulus, in conjunction with cummin and rue; in phrenitis and tetanus as an external remedy; and, in the latter disease, it formed the principal ingredient in the cataplasms which were ordered to the injured part, upon the supervention of the tetanic symptoms.

Since the days of Aretæus, the turpentine continued to keep their place in practice. Prosper Alpinus enumerates them among the individual remedies composing the *Theriaca* of the Egyptians, during the period of his residence in that country; and it is probable that they had retained their station for many ages. That they were a constituent in the polypharmacy of the middle ages, and entered largely as an ingredient into the *farra- ginous* preparations, which were both exhibited internally, and applied externally in those times, may be easily conceived, from the later, but yet extravagant, praises of Fernelius.—"*Terebinthina calefacit, mollit, discutit, terget, expurgat: viscerum omnium, maximeque renum, obstructions tollit, et angustos meatus aperit, urinam ciet, putredinem cohibet.*"

As the chemical remedies and the chemical doctrines of dis-

ease became disseminated through Europe, the province of the terebinthinous class of medicines became invaded, their boundaries more confined, and, with many other celebrated galenicals, deprived of their due consideration. The diseases of the urinary organs were left, however, in their almost undisturbed possession; so that, up to the present day, they have always attached to themselves a portion of attention in the alleviation or cure of disease.

PART I.

Reasoning from the apparent effects of the *oleum terebinthinæ* upon the animal economy, and from what I conceived to be the correct pathology of various diseases, I considered it a medicine of more general application than that hitherto assigned it. Although my experience of its efficacy has been rather limited in regard to some of the diseases in which I have ventured to recommend its use, yet I consider the success sufficiently great to entitle it to more general adoption. Its disagreeable odour, and its liability to produce offensive eructations, and even nausea, but rarely actual retching, may have tended to prevent its more general introduction into practice. Those disadvantages, however, are easily obviated, and are certainly insufficient reasons, even were they just, against resorting to its aid in several diseases, in which I am certain no other remedy can be found to produce more decidedly beneficial effects, when exhibited to fulfil correctly-formed indications, and with the view of accomplishing these only.

However weighty this objection may prove in our practice among the fashionable and fastidious—those whose digestive organs possess no great share of energy—it should have little influence in preventing its employment in dangerous ailments; and surely never, under almost any circumstance, among the labouring classes, and the objects of the numerous medical institutions in the metropolis, and large towns throughout the kingdom. This objection, which I have heard urged against this substance, and which on that account I now notice, may be frustrated, in a great measure, by a judicious combination, or method of exhibition. Dr. Paris, in his very excellent work on pharmacology, furnishes the hint for one mode of getting rid of this source of annoyance; which is, by the addition of a few drops of some fragrant volatile oil, as that of lemons. This is in some respects similar to that which I have been long in the habit of using—namely, giving with it some aromatic tincture, or warm spice. In an intertropical climate, where I have found it necessary to prescribe it to individuals of weak digestion, and

accustomed to large quantities of the hot spices of the country, the oil seldom failed of producing considerable nausea, if exhibited in a great dose, unless accompanied by a very large portion of such a corrigent.

Modes of Exhibition.

I. *In regard to the quantity.*—The quantity of this remedy prescribed in a single dose ought to vary with the indications that lead to its adoption: 1st. When it is desirable that it should operate through the medium of the circulation, and be conveyed to discerning vessels and capillaries, it ought to be given in a dose of six or eight drops to one drachm, according to the frequency of its repetition. This may be called the *small* dose of the medicine. If exhibited in this quantity, it generally exerts its influence upon the kidneys, and hence proves diuretic.—This virtue, it however, possesses more from the direct stimulus which it affords to that organ, than from any influence it exerts upon the absorbent system. In addition, however, to its effects upon the kidneys, it produces a very important one upon the exhalants and terminal vessels, when given in this proportion. It constricts their diameters by increasing their tone; and by these means proves beneficial in atonic hæmorrhages and dropsies.

2d. When given in a quantity which I consider a *medium* dose, that is, from one to two drachms, its effects upon the system are more general. But, then, these effects are entirely controlled by the duration of the intervals between the repetition of the remedy. If given in a single dose only, or if repeated after a longer period than six hours, it generally is entirely or in part absorbed, and may affect the urinary organs to excess. In addition to its action in this manner, it frequently gives a salutary impetus to the digestive tube; and if the mucous coat, with its absorbing and secreting apparatus, is in a state of chronic disorder, a salutary change is frequently produced. When exhibited at intervals of less duration than six or eight hours, the latter effects are more manifest; whilst its operation through the medium of the circulation may be more or less marked, according as it has been given at longer or shorter periods, combined with other remedies, or as it may be owing to the circumstances of the individual. Instances of various diseases are of frequent occurrence, wherein it is desirable to produce this extended operation of the remedy, cases requiring its more general effects upon the system, as well as its immediate influence upon the intestinal canal. This mode of exhibition may be resorted

to in some varieties of epilepsy, in cholera, chronic hydrocephalus, &c.

3dly. The third, or *maximum* quantity which may be taken of this substance, and which may be termed a full dose, is from four drachms to two ounces, according to the circumstances of the case, and of the individual. If taken in this quantity, it generally operates as a cathartic; but that effect cannot be depended upon; it may produce an opposite one, and in that case it will be absorbed in excess, and may produce noxious effects. Having experienced its influence under such circumstances, I have since either given it along with another cathartic, or exhibited one soon afterwards, whenever it has been slow of producing a purgative influence. The advantages arising from employing the oleum terebinthinæ with this intention, are chiefly from its concentrating the vital energies towards the organs of digestion and chyli-faction, and by those means effecting a more complete and permanent revulsion of the impetus of the circulation from the great nervous centres. Its effects upon the internal membrane of those organs, and the vessels opening upon its surface, are more efficient; and it tends to remove the viscid mucus and disordered secretions often obstructing their functions.

When exhibited in this quantity, experience has now proved its certain and almost specific influence as a vermifuge.

II. *Respecting the method of exhibiting and combining this remedy, so as to render it more agreeable, and at the same time to assist its effects in the different diseases in which it may be prescribed.*—This is a subject of importance as connected with the exhibition of this remedy, and indeed not of this alone, for it is an important consideration in the internal use of most of our active medicines. Dr. Cullen found the unpleasant sensations consequent to the ingestion of the terebinthinous remedies in any large dose, a considerable bar against their employment among delicate females, in several diseases in which he considered them of important service. Had he, however, prescribed them, even in the manner recommended by Aretæus,—that is, combining them with some other aromatic stimulant, and making honey the vehicle—his objection would have been in a great measure removed.

1st. It may be prescribed in either of the already mentioned proportions, floating upon the surface of a draught composed of some agreeable distilled water, with the addition of a drop or two of some fragrant oil, and a little warm aromatic tincture. The addition of two or more aromatics to this remedy will prevent it from producing any degree of nausea, or pain in the sto-

mach, which its uncombined exhibition sometimes occasions. The propriety of employing hot aromatics in this manner has been judiciously noticed by Dr. Paris, and I can fully confirm his observations, not only in this particular remedy, but also in many others which I have found it requisite to prescribe in irritable states of the stomach, surpassing what is usually met with in temperate climates.

Thus in the intermittents which prevail during the rainy seasons in hot climates, the state of the stomach is usually so irritable that it is with difficulty the smallest doses of the bark of cinchona are retained, when exhibited uncombined. If given, however, combined with aromatics to a degree proportioned to the habits of the individual, regarding the use of those condiments, the dose of this admirable remedy may be carried to a surprising length, without producing effects in the least degree unpleasant. In this manner I have frequently exhibited half an ounce of cinchona at one dose, with the unvarying effect in putting a stop to the disease. The corrigents which I have thus been in the habit of prescribing most frequently, are the carb. of ammon. camphor, some of the hot aromatic spices, tinctures, and essential oils. The capsicum annuum I have found, both from personal feeling, and from experience with others, to possess the most pleasant and most permanent effects in correcting and in preventing the disagreeable sensations arising from other remedies.

2d. Another mode of administering this remedy, independently of the quantity, is by suspending it in the vehicle by means of some mucilage. When given in this form, the necessity of conjoining it with another essential oil, in order to subdue its odour, and correct its effects upon the stomach, is still required. The compound spirit of ether may be also employed with that intention; the tincture of capsicum, or any other warm aromatic spirit or tincture, may be also added. This mode of exhibition I have never found to produce nausea; but, even when given in a large dose, its absorption is, in my opinion, thereby promoted.

3d. A third form under which it may be taken internally, and one in which it was generally exhibited by the ancients, is that of a linctus made with honey, or with any rich aromatic syrup. This mode may be chosen when it is desirable to give it in small doses; the necessity, however, of prescribing in the same recipe some fragrant and aromatic preparation must be sufficiently obvious when we direct the remedy in this form.

I have been of late frequently in the habit of prescribing this medicine for children of almost all ages, and in different propor-

tions, but generally in the maximum dose ; and I do not recollect an instance wherein it has not been taken by the child, or wherein it was afterwards rejected.

The lively author of the article upon Cookery, in the 69th Number of the Edinburgh Review, (p. 45,) ingeniously considers that the flavour of any substance arises from the odorous particles escaping during the process of mastication, and while it is held in the mouth through the posterior nares, and there, at the same time affecting the organs of smell. In pursuance of this doctrine, and for the benefit of those who are doomed to copious draughts of nauseous remedies, I would recommend that the olfactory nerves, whether anterior or posterior, should be secured as far as possible against the invasion of the disagreeable odour ; both while it is external to those watchful sentinels, or even after it has entered the portals which they so faithfully guard. The manner in which this may be effected requires not my formal prescription.

PART II.

Observations respecting the particular diseases in which it may be employed.

Chronic Rheumatism.—The terebinthinous remedies have been long in use in several varieties of this disease, as in lumbago, sciatica, &c. and experience has long demonstrated their essential service. Drs. Pitcairn and Cheyne were the first to recommend the essential oil in this affection ; afterwards Dr. Home and Dr. Cullen employed it frequently. Home gave it in the form of a linctus, consisting of two drachms of the oil and one ounce of honey ; and of this a tea-spoonful was taken twice or thrice in the twenty-four hours. This was the same formula as that recommended by Cheyne ; and, from the cases related by Home, it appeared to have generally cured the disease.

In more modern times it was highly recommended in combination with the preparations of cinchona in this disease ; but, as cases were of every-day occurrence in which cinchona alone produced unpleasant effects in the stomach, the addition of the oil only did not remove that objection, and it appears never to have come into very general use. When this remedy is employed in chronic rheumatism, it may be taken either in the small or medium dose, and may be combined with any of the preparations of cinchona, or with the senega, &c. triturated with mucilage into the form of a draught ; to which tinct. capsici, or tinct. cardam., or spirit. aromat. comp., with a drop of some essential oil, ought to be added, in conformity with the observations already offered. The capsicum annum is, in my opinion, pre-

ferable to every other, both as an adjuvant and as a corrigent to other remedies in this disease; for I have ascertained that, if given in considerable quantities, in the form of pills, it will of itself remove this disease as soon as any other remedy.

In Sciatica, I have found the following linctus always efficacious:—R. Mellis optimi, uncias duas; olei terebinthinæ, tincturæ guaiaci ammoniatæ aa drachmas duas; olei carophil. et olei limonis, aa M iij. Misce ut fiat linctus: cochleare unum minimum bis terve de die sumendum.—The operation of the turpentine should be watched, lest they affect the urinary organs. I am much inclined to suppose that the use of diluents, if resorted to at the same time, will tend to determine their action towards the kidneys and urinary passages.

In Lumbago, I have never employed this medicine. Dr. Darwin found it of service in this variety of rheumatism, and gave it in the dose of one drachm twice a day.

Respecting its mode of operation in removing this complaint, I consider it to act like most stimulants possessing a permanent character. Its action in this disease cannot, however, be readily explained, while the pathology of the disorder remains unestablished. The prevailing opinion is, that this affection consists in a slow inflammatory action, or inflammation of some sort, existing in the fibrous textures of the body, or even sometimes in serous membranes; but it is now considered doubtful whether it actually does arise in muscular fibres. To this pathology has been urged the objection, whence comes it that rheumatic inflammation, if it be actually such, never terminates like inflammation in other textures? Because it is seated in *unyielding* and *thin* textures, can be the reply: the former quality preventing that relaxed state of the capillaries necessary to suppuration: the latter, as it allows its immediate connection to sound parts, along one of its surfaces at least; and from no part, in consequence of this character, being removed to a sufficient distance from the healthy interior and exterior tissues to permit of its sphacelation, before the neighbouring textures participate in the disease.

But it may be again inquired, if it be granted to be an inflammatory or any analogous state of the capillaries, existing in a peculiar species of texture, whence arises its sudden invasion, and rapid termination, from causes which operate directly upon the nervous sensibility? To this I would answer, that impressions made primarily upon the nerves of a part may influence, for longer or shorter periods, the state of the lymphatic and ca-

pillary arteries.* That such influence may be equally exerted, whether it takes place through the medium of the system, or from the local influence of the causes. The mode of either being brought about, I must reserve to another opportunity to show; let it suffice at present to say, that rheumatism, and even gout most probably arises from constitutional or local and fortuitous causes operating changes upon the nervous constitution of a part; and that the primary affection in the nerves cannot long exist, without inducing changes in the state of the capillary circulation of a proportionate degree of intensity.

Such, then, being the view I entertain of this disease, I consider that the substance now under consideration operates in removing it, primarily, from the stimulant effects it produces upon the digestive organs, and by nervous communication upon the heart and other textures; and afterwards, when it becomes absorbed into the current of the circulation, it produces those effects in a more signal manner, by being conveyed to the very seat of ailment, and by stimulating the nervous fibrillæ distributed upon the affected capillary vessels, restores them to their natural tone and energy.

In the hemorrhagiæ, I consider it a remedy of almost immediate efficacy in many of the affections belonging to this class. It requires, however, great discrimination on the part of the physician to determine the precise circumstances of the patient, under which it shall prove of decided advantage; the quantity of the remedy requisite to produce the desired effect; and when to stop in its exhibition; for, if given in very small doses, so as to become absorbed into the circulation, without producing much previous increase in the action of the heart, it will generally prove of essential service: whereas, if the dose exceed even a few drops, if it be repeated too frequently, or if its use be too long continued, an increase of the disease may be the consequence. The effects however, depend entirely upon the state of the habit and diathesis of the individual. A phlogistic temperament, even although the debility may be considerable, ought to forbid its exhibition. The best general indications for the internal employment of this remedy in hemorrhagic diseases, and those by which I have been guided, are the absence of plethora and the phlogistic diathesis; when there has been a previous great loss of blood; when the pulse is soft,

* By lymphatic arteries, I mean the colourless vessels, not admitting red blood.

weak, and easily compressed, indicating a want of tone in the arterial system. In a word it can be confidently resorted to in all hemorrhages possessed of a truly passive character.

In many cases of hemorrhage displaying what has been commonly called the hemorrhagic effort, as preceded and marked by a sense of titillation, heat, &c. this medicine, if properly watched, is not contra-indicated; for, if it be given in such a quantity as to produce a considerable concentration of the vital energy towards the digestive canal, a revulsion may be effected from the part threatened, and thus, by the exhibition of the maximum dose, the occurrence of the disease prevented, at least for that period: and afterwards, by the cautious use of small doses of the medicine, so as to convey it into the mass of fluids, a degree of tonic and astringent effect will be imparted from it to the capillary vessels and arteries, sufficiently great, and indeed greater, than is barely requisite to withstand the impetus with which the blood may be propelled along their canals, and to preserve their integrity against the impulse given to their contents by the increase that takes place in the strength of the heart's contractions.

In the *Atonic Epistaxis* of children, I have more than once found it of service, and I consider that it may be resorted to in many cases of *Hæmoptysis*, when that disease is accompanied with great debility, with considerable, although seldom with permanent advantage. My friend Dr. Clutterbuck, lately found it of service in such a case; and I am sure there are many cases, usually ranked under this denomination of disease, wherein the deranged structure only exists in the mucous membrane of the bronchia and air cells, or amounts only to a relaxation of the capillary vessels on those surfaces, which would be considerably benefitted by the exhibition of this and other terebinthinous remedies, and would thus justify the employment of those medicines in pectoral complaints by the ancients.

When, however there is reason to suppose that this disease arises from ulceration in the substance of the lungs, injuring the integrity of a considerable blood-vessel, even though much relaxation of the nervous and arterial systems were present at the same time, the use of the *oleum terebinthinæ* could be but of doubtful advantage; unless we suppose that, if conveyed through the current of the circulation, it may produce a beneficial effect upon the ulcerated surface, in the same manner as a diluted application of it frequently does in external ulceration.

In *Hæmorrhoids*, especially when seated high in the rectum, as they frequently are in those who have suffered from repeated and continued attacks of dysentery in warm climates, I have

sometimes found the turpentine of partial advantage, and have employed them as an adjuvant to other remedies. When this disease arises in individuals from the causes just alluded to, there is generally impeded or obstructed circulation in the liver, or, then, some degree of ulceration and stricture in the rectum, from its being frequently the seat of disease; under either of which circumstances, although the oleum terebinthinæ, and substances that yield it, may arrest the bleeding, the constitutional disturbance will not be diminished.

In *Menorrhagia*, I have no experience of its effects; but I strongly entertain the opinion that the oleum terebinthinæ is calculated to be of the most essential benefit in puerperal menorrhagia or flooding, if given in a dose of an ounce or upwards. If exhibited in this quantity, I have no doubts of its influence in promoting the contractions of the uterus; and by these means producing the constriction and varied inflections of the vessels, which affords a mechanical, but at the same time a natural, obstruction to the flow of blood, and soon terminates the mischief. Against this most alarming of all natural hemorrhages, I also consider an enema of at least two ounces of this substance ought to be immediately administered. I recommend this, with the utmost confidence of success, to those whose practice affords them opportunities of putting it to the test of experience.

In *chronic Dysentery*, unconnected with disordered liver, and in those cases in which the disease is marked with a relaxation of the capillaries and mucous follicles, I have in several cases witnessed its decided utility. If it be had recourse to as an enema in this disorder, it should not be employed while the disease partakes of any of the acute symptoms; and, when resorted to, it ought to be in small quantity, as it will otherwise produce a return of the tenesmus and other distressing symptoms.

When given in the purely chronic form of this disease, the medium quantity may be chosen, and exhibited in a combination which the circumstances of the case will suggest. I have preferred it suspended in a mucilage from the compound powder of tragacanth, with any of the astringent and tonic extracts or tinctures, and the aromatic corrigents. It may also in this manner be given along with rhubarb and ipecacuanha.

In the *chronic Diarrhœa* of children, in which there is reason to suspect slow inflammatory action to exist in the mucous coat of the intestines and in the follicular glands in that situation, few remedies, (if it is suitably combined, and given in a properly digested plan, according to the circumstances of the case,) are likely to be of more permanent service.

The plan I have generally pursued in those cases, has been to prescribe a powder at bed-time, composed of the hydrarg. submur., pulv. ipecac. comp., pulv. rhei. or the pulv. tragacanth. com. in proportions according to circumstances and the age of the child; and a draught in the morning, of the oleum terebinthinæ enveloped in mucilage, with the requisite corrigents. A medium dose in this affection has been the quantity usually prescribed.

In *Apoplexia*.—I have never prescribed it in this disease, but I think it may be employed with advantage in a maximum dose, from the revulsion it would produce of the circulation from the head. I am also of opinion that, in many varieties of *paralysis*, it would be calculated to prove of service, from its restraining the disposition to congestion and effusion upon the great nervous centres, and by rousing the ganglian nerves to increased energy. In order to produce this effect, it should be given in small and repeated doses, to admit of its absorption. It may be also exhibited as a purgative, in cases requiring the active operation of such medicines.

In *Epilepsia*.—Dr. Perceval was the first to recommend the oil of turpentine in this disease. Drs. Latham and Lithgow afterwards employed it with success in the same affection. From the circumstances of the cases detailed by these physicians occurring in females, and from its tending to promote the regularity of the menstrual flux, it has been argued that the benefit derived from its exhibition arises from its emmenagogue operation. It has been given, however, in cases wherein such a mode of operation was impossible, and with the most decided advantage. From what I have seen of its exhibition in several cases, both in my own practice and in that of others, I certainly consider that, in the majority of epileptic cases, whether occurring in the male or female, in the child or in the adult, no medicine can be administered with more certain prospects of success, when judiciously given or sufficiently persevered in. The manner in which I have prescribed it, is in small doses in some tonic or antispasmodic mixture, at the same time attending to the state of the bowels. Exhibited in this form, it becomes absorbed, and tends to promote a regular distribution of the nervous influence throughout the various organs of the body, and to support an equable degree of tone in the capillary circulation in the great nervous centres. If, however, this mode of exhibiting the remedy affect the urinary passages, its use may be intermitted for some time; as such an occurrence shows its pres-

ence in the circulation in a quantity sufficient to produce some degree of stimulus upon the terminal vessels.*

The good effects of the oil and of the turpentine, when employed in this manner, arise in my opinion, from this essential oil being conveyed into the circulating mass, and there producing a more general and more decided effect than its local influence upon the digestive organs could have occasioned. I consider this substance as one of the few vegetable products that are not decomposed, nor materially altered, by the process of digestion; and that, like the nitrate of silver, the sulphate and oxide of zinc, and the solution of arsenic, whose operation in the cure of this disease is so remarkable, it is not resolved into simpler elements during that operation. I may here add, that those mineral substances just enumerated can be proved to exert their influence in this and in other diseases, from their presence in the circulation; but whether they act by exciting the vessels in the quarter supposed to be the seat of the affection to a more regular and continued state of tone and energy, or whether such regular exertion of vascular action, kept up in the vessels ramified in the nervous centres, promotes the production and exaltation of nervous influence, which, as soon as produced, is distributed through the various channels, and ultimately influence the vessels that gave it origin, the reciprocal effects thus moving in a continued and unvarying chain, is a matter of difficulty to determine. The effects may be produced in either of these modes, but most likely by them both conjointly; that is, by the continued stimulus afforded the internal coats of the capillaries, and by the consequent state of the circulation in them generally, and in those distributed to the nervous centres particularly, favouring the production of nervous influence, and its regular distribution throughout the system.

Having employed this remedy in the intervals in the manner just mentioned, care should be taken to ascertain the exact period in which the invasion of the paroxysm takes place; and as, in most cases of the purely cerebral variety of the disease, the fit occurs during the night, a large dose of the oil, generally about an ounce, but more or less according to the circumstances of the case, with about half that quantity of the *oleum ricini*, ought to be taken so soon as the patient is in bed. By giving it when the patient has retired to rest, it is less apt to offend the stomach in

* By terminal vessels, I mean the extreme capillaries, whether running into veins or into those conveying colourless lymph, or terminating in any of the textures, whether into their substance, upon their surfaces, or into any other series of vessels, &c. which they may possess.

irritable states of that organ. In many instances, this mode of proceeding will prevent the accession of a fit, even upon its first employment; it will, at least, in most instances, defer the paroxysm. But, in more obstinate, and in even hereditary cases, by pursuing the disease in this manner, the epileptic seizures will at first become less severe; their attacks shall be afterwards deferred; and by pushing the continued small doses of the medicine during the intervals, so far as the state of the urinary organs will permit, and by anticipating the paroxysm by a full dose of the oil, they may be expected gradually to disappear. When this end is attained, the medical treatment and regimen ought to be directed to preserve the nervous energy and tone of the system, and to obviate plethora. It will, however, generally be found in epileptic patients, that the treatment most conducive to effect the former will also accomplish the latter.

In the epilepsy of children, which generally arises from the irritation of worms in the alimentary canal, or from a disordered state of its mucous membrane, this medicine will seldom fail in proving of immediate advantage. It acts more speedily than any other in removing the cause, and consequently, in such cases, the disease.

Before leaving the subject of epilepsy, I cannot help regretting our want of such officinal remedy as the essential oil of valerian. It is an admirable remedy in both this disease and in hysteria, besides in many other complaints in which antispasmodics are indicated. It is to this oil that the virtues of all the preparations of valerian are owing, and it possesses the advantage over them of being infinitely more active and more easily and more pleasantly exhibited, especially to children, against whose diseases it is so frequently efficacious. It is highly esteemed in the north of Germany, and there supersedes every other preparation of valerian.

In *Chorea*.—I have prescribed the oleum terebinthinæ in two cases of this disease. In the one detailed in the January number of the Medical Repository, which alternated with rheumatism, and in which the disease affected the heart, and was ultimately fatal, it proved of no service; but it must be recollected that it was not resorted to until the very extensive derangement of structure, detected upon dissection, had proceeded to an irremediable height. The other case was speedily removed by this medicine, given generally in a full dose, and sometimes with a little of the oleum ricini to promote its cathartic effects.

In *Tetanus*.—I have no experience of its effects in this disease. In one very acute case of this frightful malady, that recently came under my observation, I intended to have given

this substance a trial. It, however, terminated fatally before it was exhibited, in a more rapid manner than was expected. Dr. Phillips relates a case of the idiopathic species of this disease, which was almost instantaneously cured by this remedy.

Convulsio.—I have in several instances witnessed the effects of this medicine in the convulsions of children, especially the sympathetic variety which originates in a disordered state of the alimentary canal. In such cases I have given it so as to produce its cathartic operation, and always with the best success—the removal of the affection. In the convulsions proceeding from a primary disease in the brain, as they follow the course of such maladies, they will be considered in connexion.

In *Raphania*.—Three cases of this singular species of ailment have occurred to my observation in children. In one of nine years of age, which was particularly interesting on account of the nature of the muscular contractions, and indeed the whole phenomena accompanying the disease, but which my limits forbid me at present to detail, the oleum terebinthinæ was given, without producing any effect; but it must be mentioned, in justice to this substance, that every species of treatment equally failed. The arsenical solution, nitrate of silver, the preparations of zinc, and courses of cinchona, and of antispasmodic remedies, also proved inefficacious. No appearance of irritation could be traced to the spine, to the brain, to the intestinal canal, nor to the gums. The child at last became suddenly exempt from seizure, six months after having made use of any remedy. In the two other cases, this medicine proved completely efficacious.

In *Colic*.—I have never ordered this substance in colic. Dr. Cullen recommended it in the flatulent variety of this disease as an enema. I consider this form of exhibition the most eligible, and the flatulent species the only kind of colic in the cure of which it is admissible.

In *Diabetes*, it certainly deserves to be tried, not by itself only, but also in combination with other remedies, as cinchona, &c. Dr. Darwin recommended it in this disease, but has not mentioned his experience of its effects.

Hysteria presents several varieties, in which the terebinthines may be employed with advantage. In those forms of the disease which arise from debility induced by menorrhagia and fluor albus, or in those connected with a vitiated state of the stomach and intestines, they may be given in doses and in a manner suited to the circumstances of the case; and either in such a mode as to be absorbed into the circulation, or to evacuate fully the contents of the intestinal canal.

Of the employment of the oil of turpentine in *Hydrophobia*, I cannot speak from experience ; nor am I acquainted with any trial having been made of its effects in this dreadful disease. It certainly deserves the experiment.

In *Mania*.—I am unable at present to speak of its effects in this malady. I have, however, one case under treatment, in which I have prescribed it in a medium dose, so as to operate gently upon the bowels, and by these means to allow its partial absorption. Sufficient length of time has not yet elapsed to permit us to be acquainted with its effects.

In *Marasmus*, accompanied with a diseased state of the mucous membranes, and the vessels and follicular apparatus opening upon their surface, I consider that the occasional employment of a medium dose, or even any other quantity of this medicine, will be found of considerable service. In a very few such cases in which I have prescribed it, I have found it advantageous.

In the *Hydropes*, the oleum terebinthinæ and the terebinthinates have been long prescribed as a diuretic, especially during the two last centuries, by the German and Dutch physicians. Fonseca gave the latter in barley-water, with this intention. Closius exhibited them in the form of pills, combined with large doses of the sulphate of zinc. Such a formula he recommended for its diuretic properties. Werhof and Stah extoll also their effects in dropsy ; and Holst and Pop praise them highly in such diseases, in Hufeland's Journal and Roeschlaub's Magazine : the latter writer considers them to be an excellent application to the roots of sickly plants.

Wilkes says, " The etherial oil of turpentine is a most powerful diuretic." Hardinge prescribed it with this intention, in combination with an infusion of juniper berries and nitre, and directed it to be administered as an enema. Bang added it to olive oil, and recommended it to be rubbed over the abdomen in ascites.

In *Anasarca* and *Hydrothorax*, arising chiefly from a relaxation of the lymphatic capillaries, and marked by a serous or leucophlegmatic character of countenance, I consider that the terebinthinous remedies may be employed with advantage. But in neither can they be admissible when the arterial action is in any degree of exaltation, as it always is, either generally or partially, in the forms of those diseases long known under the appellation of acute dropsies. In those species, also, of dropsical diseases where the energy of the nervous influence, or moving power, is insufficient to the mass of fluid to be held in motion, and congestion in the venous trunks of vessels become

the consequence, either generally or partially, according to the extent of the cause, the terebinthines may be resorted to with advantage. The doctrine of congestion, as laid down and illustrated by Stahl, has been in the present day called to the explanation of the phenomena of diseases which cannot be so distinctly derived from such a source; but, in whatever disease such a state of vessels may be proved to have existed, it surely forms only an intermediate link in the chain of causation; an earlier one may be found in the nervous system. In the dropsies which derive their origin from any considerable structural derangement existing in an important organ, these remedies can be employed with but little expectation of advantage. Respecting my own experience of their effects in these diseases, that is very limited. I have prescribed them more in the progress of recovery from them, with the intention of promoting that process, and at the same time of invigorating the constitution, than to combat their early stages. The manner of prescribing these remedies in the diseases under consideration, has been to give them in small, but sometimes in medium doses, combined with other medicines according to the circumstances of the case.

In *Ovarian Dropsy*.—Having been led to speculate upon the pathology of this malady, from having it subjected to my close observation, and under circumstances of peculiar interest and distress, I resolved to employ other remedies and different modes of treatment from those invariably found hitherto unavailing. In two cases of those which have since fallen under my observation, I have employed the oleum terebinthinæ, or the terebinthina chia, in various proportions, directing them generally so as to be taken into the circulation, and exhibiting them occasionally in a full, or maximum dose, so as to produce their full operation upon the alimentary canal. Local depletion and counter-irritants were employed at the same time, while the full vigour of the nervous energy was promoted by suitable diet and regimen. In one of these cases, the disease has been kept stationary during two years, which was all that could be expected, from the advanced state of the complaint. The other has not been half that period under occasional treatment; but it commenced at an earlier stage, and the disease is now reduced to a small tumour, perceptible only during some positions of the body.

In *Hydrocephalus*.—1st. In the *acute species* of this disease. In the stage of turgescence, or invasion of the acute hydrocephalus, the oleum terebinthinæ may be employed as a useful auxiliary to other remedies. Nor do I consider that it should

be ranked as an auxiliary only, although it may be resorted to in combination with other medicines. No substance, in my opinion, is more calculated to produce a complete derivation of the impetus of the circulation from the brain towards the digestive tube, than the one under consideration. As the stage of turgescence* is merely the progression to the inflammatory state, the mode of treatment and of employing this remedy will differ but little, or at least only as it respects the energy with which it and other remedial agents ought to be entered upon. I have had several opportunities of using this medicine in the Institution for the Diseases of Children, to which I am one of the physicians, and both in the acute and chronic form of this malady. But in a disease which, even in its invasion, threatens the most imminent danger, to trust to the effects of this or any other single remedy, would, in my opinion, be a palpable want of activity in the physician: I have, on that account, employed other means in addition to its use. The submuriate of mercury with digitalis, the latter especially in the inflammatory stage, have been prescribed through the day and at night; while local bleedings have been resorted to, and pediluvia, followed by mustard cataplasms to the calves of the legs, have been also enjoined. The manner in which I have employed this oil, has been to give it the first in the morning, in such a combination as to ensure its drastic and derivative effects, and at the same time to prevent it from being ejected by vomiting. That degree of ventricular irritation that gives rise to the sensation of nausea, is not in any degree hurtful in these stages of this disease; but, from the sedative effects that result from it, in every respect the contrary; whereas, if it be increased so as to produce vomiting, augmented impetus of circulation in the head becomes the consequence, which always proves hurtful in the various species of this disease. This maximum dose ought to be continued every morning, especially in the inflammatory stage, until the treatment has effected this removal. In this stage, depletion may be carried to considerable length. Children can bear the loss of blood much better than has been generally supposed. The dread of carrying this mode of cure to an undue extent in the acute diseases of children, has tended greatly to promote a feeling of despair in the mind of the practitioner, when entering upon the treatment of many of their ailments. This sentiment was first combated in some degree by the late Dr. Clark; but

* See the admirable work of Golis, of Vienna, on Acute and Chronic Hydrocephalus; the former has been lately translated by the able hand of Dr. Gooch.

our progress in pathological research has most materially, and even lately, promoted the advancement of this department of the healing art.

In the inflammatory stage of acute hydrocephalus, the oleum terebinthinæ appears to be one of the best cathartics, and only excelled by the hydrarg. submur.; and if judiciously employed in conjunction with that remedy and digitalis, with depletion, cold applications to the head, and revulsants to the extremities, the nape of the neck, and between the shoulders, according to circumstances, this species of the malady may be combated with more certain prospect of success than that hitherto entertained.

In this stage of effusion, this remedy deserves a trial. In one case, in which I believed that state to have existed completely, from the position of the child, and disregard of external objects, &c. this medicine was exhibited in small doses through the day, with a maximum quantity on alternate mornings. This plan of treatment was continued for a considerable time, with little variation, unless when the medicine affected the urinary organs; when it was discontinued, and the hydrarg. cum creta, with digitalis and the spirit. æther. nitrici, were substituted for a short time in its place. The child ultimately recovered.

In *Chronic Hydrocephalus*, I have employed the oil of turpentine in a number of cases, both directing it in order to produce its diuretic effects, and also as a cathartic. When prescribing it with the former intention, I have sometimes given it along with the digitalis; at other times, continuing its use for a few days only, and then employing mercurials, with digitalis and other diuretics, for an equal period; thus alternating the oil with this class of remedies sufficiently long to ascertain the effect. This mode of resorting to its use is most applicable to that condition of the disease marked by an atonic state of the exhalant and capillary vessels. If further experience shall confirm the good effects which I have considered to have arisen from its use in this and in other dropsical effusions, it may be viewed as owing chiefly to its tonic effect upon these vessels. The convulsions, and very constipated state of the bowels which so frequently occur in this species of the disease, are, in my opinion, best combatted by a maximum dose of this medicine. In several cases in which the most active cathartics failed of producing any effect, although exhibited in surprisingly large doses, the oleum terebinthinæ, with half the quantity of the oleum ricini, have produced copious evacuations. Three cases of chronic hydrocephalus, accompanied with complete loss of the functions of the brain, have occurred to me, two of which

were in the Royal Dispensary for Children, and have been treated in this manner, where the patients have so far recovered as to become sensible to the impression of external objects; and, although the disease was evidently only partially removed, yet their parents have considered them sufficiently recovered to leave off the use of medicine. In these and the other cases that have fallen under my observation, and which generally, from their very advanced stage, were particularly hopeless, this substance formed the chief cathartic remedy prescribed, in addition to its exhibition in small and frequent doses, and as such it was liberally given. However, under every mode of exhibition, but more especially when given in small doses in this disease, its effects upon the urinary organs, and the degree of distension of the bladder, ought to be examined.

In one case of chronic hydrocephalus in a child of nine months, and in which the head was enormously enlarged, the operation of letting out a portion of the effused fluid by puncture, was performed, at my request, by my friend Mr. Dendy. Diuretic remedies were also prescribed. The child died some time after the third repetition of the operation.

In chronic affections of the urinary organs, the terebinthinous remedies may be resorted to with advantage. In all cases of a relaxed state of the vessels in the pelves of the kidneys, or in the mucous membrane covering the urinary passages, remaining after the debilitating effects of acute disease, their use may be attended with great benefit; and with such I have employed both them and the *uva ursi*; but neither is admissible while any acute symptoms remain.

The diuretic and stimulant effects of the oil upon the urinary organs, led Ballonius to employ it as a remedy in *sterilitas*; and he says, with advantage in several cases.

I consider both the oil and the terebinthinates very excellent remedies in *fluor albus*, and in diseases of the uterus depending upon a debilitated state of the vessels in that organ and its appendages. They deserve trial also in old *gleet*; and certainly, in that disease, might be expected to exert even a more decided efficacy than the *copaiba balsam*, which is so similar to them in chemical constitution.

In *Icterus*.—Guyton de Morveau recommended the *oleum terebinthinæ*, with ether, as a solvent of biliary calculi, and tried many experiments with it among the patients of Dr. Durande. What degree of efficacy it could produce while the calculus remained in the ducts, would be difficult to determine: that it produced any, may be doubted. Darwin and Saunders have both performed experiments, in order to ascertain the solvent

power of this substance over biliary calculi when out of the body, which have not been demonstrative of its complete success, when even resorted to in this direct manner. The influence it has been found to possess in the cure of icterus, by Odier in France, and by Herz and Holst in Germany, must, in my opinion, be explained upon a different principle than that of its efficacy in dissolving the calculi obstructing the biliary ducts.

Against Worms in the Intestinal Canal.—The oleum terebinthinæ was recommended as an anthelmintic in the early part of the seventeenth century, by Thomas Bartholinus. Chabert, a French writer, extolled its virtues in that capacity in 1781. Since that period it has been frequently exhibited with this intention, especially against the tæniæ: and certainly no remedy can be resorted to with more certain prospects of success. It is quite unnecessary for me to quote an immense number of cases, detailed in the various Journals and Transactions of Medical Societies, illustrative of this position, as the point is quite established. I have employed it myself against tæniæ in seven cases, in all of which it effected the expulsion of the dead animal: it therefore acts in a double capacity in ridding the body of these troublesome inmates, by causing their death and their rejection. I have generally preferred to exhibit this substance against tape-worm in a pure and uncombined state, or nearly so, and frequently upon the surface of some distilled water, with the addition of a drop or two of some fragrant oil. The time best suited to its exhibition is the morning early; it ought to be taken before any thing whatever; nor should food follow its ingestion for at least two hours afterwards. If it does not operate by stool in four or five hours after it has been taken, a dose of the oleum ricini ought to be exhibited. I prefer this mode of prescribing the oleum terebinthinæ in tænia, to that of giving another purgative in combination with it, because, by leaving it to its individual effects for some time, it can the better exert its influence in destroying that animal; while the cathartic follows in sufficient time to prevent any very serious effects from its retention. The quantity of the remedy must be left to the physician prescribing, and its repetition in this manner must be guided by the effects of the first decided dose. My friend Mr. Winstone, of Charter-house-square, a sagacious and observing practitioner, informed me that, on one occasion of his exhibiting this remedy in tænia, although it was given in a very large dose in combination with another cathartic, and although it produced the expulsion of a very large tænia, it nevertheless affected the urinary organs so as to cause bloody urine. This is, however, but a rare occurrence, and, although highly unpleas-

ant, yet it is productive of no lasting bad effects. This instance may have arisen from an accidental activity of the absorbent system, consequent to a previous abstinence undertaken in order to promote the operation of the remedy.

In concluding this subject, I may add, that in the account of the plague as it occurred at Malta, given by Sir B. Faulkner, of three cases of recovery from that disease there detailed, two of them arose from the accidental ingestion of an immense dose of this substance combined with camphor.

II.

ART. I. *Memoires sur la Fievre Jaune consideree, dans sa Nature et dans ses Rapports avec ces Gouvernements.* Par N. V. A. GERARDIN (de Nancy.) pp. 91. Paris, 1820.

ART. II.—*Considerations sur la Fievre Jaune.* Par le Baron LARREY, &c. &c. Seconde Edition. pp. 42. Paris, chez Compeu, jeune. 1822.

ART. III.—*Rapport presente a son Excellence le Ministre Secretaire d'Etat au Department de l'Interieur, par la Commission Medicale envoyee a Barcelone.*—(Journal Generale de Medicine, Mars 1822.)

ART. IV.—*Manifeste touchant l' Origine et la Propagation de la Maladie qui a regne a Barcelone, en l'annee 1821 ; presente a l'auguste Congres Nationale, par une reunion Libre de Medecins etrangers et nationaux.* Traduit de l'Espagnol, par J. A. ROCHOUX. pp. 35. Paris, chez Bechet, jeune. 1822.

(From the London Medical and Physical Journal.)

We have been induced, thus early in our career, to undertake the consideration of the subject of Yellow Fever, partly from a conviction of its great importance at this moment,* and partly, also, in consequence of a promise which our predecessor has held out in a recent Number of this Journal, and which promise we were most anxious to fulfil. We approach the discussion with a deep sense of its difficulties, and, we hope, unbiassed by any particular theory. Recent circumstances have rendered it of such intense interest, and conflicting opinions have so obscured it, that, although we may hope to be pardoned if we fail to produce order out of this chaos, we should certainly have deserved reprehension if we had shrunk from making the attempt.

Some questions alike interesting to the statesman and the philosopher, are involved in the inquiry concerning yellow fe-

* The public prints inform us that this disease has again made its appearance in Barcelona.

ver ; and upon the decision of one of these questions at least, the propriety or necessity of imposing severe and irksome restraints upon a numerous class of the community entirely depends. This circumstance, which greatly enhances the value of the discussion, at the same time increases the difficulty ; since the evidence that relates to this particular point is by far the most contradictory that offers itself to our notice.

The points to be resolved appear to be principally the three following :—1st. Is the disease that has of late years devastated Cadiz, Malaga, &c., and more recently committed such frightful ravages at Barcelona, the true yellow fever, or not ? 2dly. Is it an imported malady ? And 3dly, (which appears to be in some measure, but not entirely, dependent upon the decision of the former question,) Is it contagious, in the common acceptation of that word ?—for the disease *might* have been contagious independently of any importation : neither does it appear to us that this latter circumstance, if proved, would be decisive of its character.

Before we introduce the works that stand at the head of this article to the notice of our readers, it may not be amiss to give a rapid sketch of the history and symptoms of the yellow fever of the West Indies and America, a subject illustrated by the labours of so many celebrated men, both English and foreign ; and it is not a little mortifying to the pride of human learning to observe how few facts have been established, beyond the reach of contradiction, by the exertions of such an host of writers : yet, when we reflect upon the prejudices of education and of country,—when we consider how many enter into the inquiry with opinions already formed, and with the mental eye closed to every circumstance that tends to weaken their pre-conceived notions,—our wonder ceases, and we can only repose in the humble hope that *we*, who are so sensible of *their* errors, may happily avoid falling into the same mistake.

There can scarcely be found a more apposite illustration of the above remark, than the great variety of names that have been applied to denote this disease,—some imposed upon it in order to distinguish its supposed source or origin, as *the malady of Siam*, *the Bulam fever*, &c. ; others from a leading symptom, as *the black vomit*, or *vomito prieto* of the Spaniards ; others, again, from its supposed seat, as *la fièvre gastro-adyynamique* of PINEL ; or, lastly, to suit some nosological arrangement, as SAUVAGES, who designates it *typhus icterodes*.

In tracing the history of yellow fever, it is curious to observe how very conspicuous a place the doctrine of importation will be found to occupy ; and that attempts have been made, as ear-

ly as the year 1690, to fix the origin of the disease upon the East Indies; but the argument in this instance is so well known to be contradicted by established facts, and the prior existence of yellow fever in the Brazils, at Martinique, St. Domingo, &c. is so amply proved, that it will not be necessary to recur to any authority to establish this point: indeed two of the authors who tell the story of the importation by the *Oriflamme* in 1690, give a different version of it; and, as there exists an accurate description of the fever that desolated the Brazils some years prior to this supposed event, and which description can leave no doubt as to the disease having been really the yellow fever, we may be excused from any further research relative to this particular point. Since the date of the above story, a formidable list of authors, upwards of an hundred in number, may be found, who have successively laboured in this field, independently of the numberless essays and papers that have from time to time been inserted in the Transactions of the various learned Societies in Europe and America; some of them describing the disease generally; others, and by far the greater number, deriving their information, and giving their description, from some particular spot, or relating to the epidemic of a particular season; to which circumstance may be attributed the discrepancies that are to be found in the several accounts of the symptoms and progress of the disease.

The following is a brief sketch of the usual mode in which yellow fever makes its attack. Its first accession is denoted by cold chills or rigors, soon succeeded by intense heat and dryness of the surface of the body;* the face is red and flushed; the eyes have a peculiar and fiery expression, which has been compared to those of a man in a state of intoxication; violent pains are felt in the forehead and orbits, sometimes more particularly in the back and lumbar region; the countenance sometimes exhibits a remarkable expression of alarm; the tongue, at first moist, soon becomes loaded; the patient complains of nausea and tenderness in the epigastrium; troublesome eructations and vomitings of bilious matter quickly succeed, which, as the disease advances, becomes of a darker colour; the thirst is extremely great; restlessness and watchfulness distress the sufferer to a great degree: and this stage of the disease often lasts as long as two, or even three, days. The condition of the bowels

* Humboldt tells a story of a traveller, who had passed a very short time at Vera Cruz, and, on his arrival at Xalapa, was told by his Indian barber that he would have the black vomit that evening; giving as a reason that the soap dried upon his face as fast as he applied it.

differs very much : in some instances, constipation exists to a very remarkable extent. One of the distinctive marks of the complaint, mentioned by Mr. Bally, is the length of time that the energy of the muscular power is sustained, so that a person shall be able to walk the street, or shave himself, within an hour of his death. At the termination of this stage, the more prominent symptoms, in general, remit : the patient and his friends are induced to believe that he has overcome the malady ; but the listless and often torpid state of the patient, and a faint yellowish appearance about the chin, or on the sclerotic coat of the eye, too surely point out the danger that is lurking beneath this apparent calm. Dr. Bancroft observes as an alarming symptom in this stage of the complaint, that pressure made upon the region of the stomach will occasionally produce efforts to vomit ; although the pulse shall have diminished in frequency, the thirst and febrile heat shall have subsided ; and even the intellects, if previously disturbed, shall have become clear. This, which may be called the second period of the disease, seldom lasts above two days, and is succeeded by renewed vomitings : the matter thrown up is streaked, or altogether black ; passive hemorrhages from the mouth, anus, &c. supervene ; the teeth and gums are covered with a black crust ; the dejections become bloody, of a most offensive kind, and often involuntary ; the urine is dark coloured, foetid, and in very small quantity ; petechiæ occasionally appear over the whole body, some hours previous to death. Swellings of the parotids, and of the axillary glands, are mentioned by some authors, but they do not seem to be essential to the disease : they were, however, met with frequently at Martinique, in 1802 and 1803. The state of the intellects is by no means uniform ; sometimes coma prevails ; in other epidemic seasons, furious delirium has been more prevalent. The whole duration of the malady is from five to seven days, although many instances occur where death ensues within thirty-six or even twenty-four hours. The state of the pulse is represented as very variable. Dr. Gordon says that, at the commencement of the re-action, it is full and strong, but seldom exceeding ninety strokes in the minute. Dr. Bancroft represents it as quick, though sometimes oppressed and irregular. At the end of the first twenty-four hours it increases in frequency.

It appears, by the concurrent testimony of some of the best writers, that yellow fever attacks the system most commonly between midnight and noon.

So much do these epidemics vary in their leading symptoms, that, in 1814, it is said that the black vomit was a rare occur-

rence. At Philadelphia, in 1798, the delirium was generally of a violent character. In some instances, a miliary eruption has made its appearance in the latter stage of the malady; and even the yellow suffusion is not always met with. Examination of the dead body presents more points of difference than would at first sight be expected; and authors by no means agree in their accounts of the diseased appearances. These disagreements may, perhaps, be ascribed to the greater or less degree of severity of individual cases, or to variations in the epidemic constitution (to use an antiquated phrase,) of some particular seasons. Thus, whilst Bancroft declares that the brain has appeared to him more voluminous than natural, Mr. Bally has found it compressed by a red and bloody looking serum; and Savaresi says that it is, in general, reduced to five-sixths of its usual volume. In some seasons, the lungs have been found affected, and the pleura inflamed; but the abdomen is the principal seat of the morbid changes, though even here we find a great contrariety of sentiment. Dr. Gordon has found the biliary organs frequently in a state of lesion; others have observed that the liver and gall-bladder remain in a healthy state, even where the stomach is loaded with the matter of black vomit. Gerardin has often seen the hepatic system unaltered; whereas Rochoux protests that there is no example of the gall-bladder remaining in a healthy state. It is admitted that the spleen and kidneys are generally sound; yet Savaresi observed, at Martinique, in 1803, and 1804, that they were constantly affected. The mucous surface of the stomach and small intestines bears, however, the most unequivocal and universal marks of lesion, according to the unanimous testimony of all the best writers. Red and gangrenous spots are found scattered over their whole surface, and finally, Dr. Audouard informs us that, in numerous instances, the spinal canal contains a quantity of serous fluid.

We will not fatigue or insult our readers by quoting authorities to prove that yellow fever is indigenous in the New World; that it is of local origin, and can be fairly traced to the extrication of marsh effluvia, reigning sporadically, in a greater or less degree, among Europeans and new settlers; whilst the natives and the black population, excepting in particular seasons, escape with impunity, or, at most, only suffer partially and occasionally from slight remittent or intermittent fever. We are still, however, in darkness with respect to the causes which sometimes give vigour and activity to this poison at one period more than another, and which, after a few years' quiescence, render these climates so formidable to the inhabitants of our quarter of the

globe ; particularly hot seasons,—the fall of an unusual quantity of rain,—the direction of the winds,—the absence or presence of hurricanes, and other atmospheric phenomena, would probably, if duly registered and known, solve the difficulty. But this is a subject standing in need of much illustration, and the study of which we strongly recommend to those whose destiny carries them to these climates.

A careful inquiry into the topography of the different islands and places where the disease is to be met with, is also a great desideratum ; although, since the year 1793, many important facts relative to this point have been noticed, both by English and foreign writers. It is a pursuit of the highest importance, because it leads at once to the only remedies that can prevent a recurrence of the dreadful scenes that have been too common both in America and its islands ; and which remedies, it has been, we think, satisfactorily shown, consist in ventilation, drainage, and cultivation. That, from the year 1793, in particular, such frightful mortalities should have occurred in St. Domingo and other of the Antilles, is not a subject of astonishment, when we consider the thousands of victims, in the fittest state to receive the disease, which the course of a sanguinary war poured out to these colonies.

We may now fairly proceed to examine the authorities on the much-disputed subject of contagion, which we shall do as briefly as possible, and then turn our attention to the disease which has appeared so frequently, of late years, on the coast of Spain and Italy ; which will conduct us to the question of importation, and to its application to the recent case of Barcelona in particular.

Several opinions appear to have been prevalent relative to the contagious character of yellow fever, by which term we understand a direct communication with the sick, or with the clothes, bedding, &c. of persons labouring under the disease. One of these opinions is, that it is contagious ; another, that it is not ; and a third and respectable portion, both as to reputation and numbers, hold a middle course, and believe that it is sometimes contagious and sometimes not so ; whilst others, refining still farther, believe that, though not originally capable of communication, it may, under certain circumstances, become so, or that the contagious property has but an extremely limited operation in point of time as well as space. Among the contagionists are to be found the names of Lind, Lining, M^r Kettrick, Batty, Chisholm, Pallone, Arejula, Pym, &c. The non-contagionists produce the names of Jackson, Moseley, Bancroft, Watts, Miller, Revere, M^r Lean, Valentin, Savaresi, Deveze,

Caldwell, Ferguson, &c. The partizans of the mixed opinion number among them Humboldt, Desgenettes, M. de St. Mery, M. de Jonnes, (not a medical man,) Clark : Baron Larrey and Gerardin must be also classed in this list.

With respect to Mr. Rochoux, we know not what to say ; he seems to have changed his opinion so often, that it may fairly be doubted whether he has made up his mind as to which side of the question he finally intends to espouse. It is more than suspected that Dr. Rush, although he had formally abjured his belief in contagion, retained a strong predilection for that doctrine to his last hour.

In the very outset of the argument, it will be perceived that the non-contagionists have a manifest advantage over their antagonists, because one well-authenticated fact of non-contagion is, from its nature, of more value, than scores of cases of contagion as usually adduced ; for, as these latter necessarily take place upon the spot which is the alleged source and origin of the noxious effluvia,—the very cradle of the disease, twenty men may successively fall ill from breathing the same atmosphere, without its being at all necessary to suppose they derived it from each other : nor does the exemption of secluded houses and families, even if the facts are admitted in their fullest extent, entirely clear up the difficulty ; since it is well known that, in other cases of marsh fever, and upon sundry other occasions, the slightest difference of situation,—the interposition of a wall or dyke,—has been quite sufficient to preserve the atmosphere from contamination. In Walcheren, this was exemplified in numerous instances, especially at Fort Batz, where the troops suffered little or no sickness ; whereas, those stationed without the fort, though only at a very short distance, were affected by the fever to a most alarming extent and degree. But what shall we say to the instance of New-York, in 1805, where a population of more than 10,000 persons, dreading the effects of contagion, fled from the town, and encamping at Greenwich, an elevated field at one extremity of the town, established their stores, banking houses, &c. on that spot, and where, finally, the customs and the courts of justice were transferred,—notwithstanding the constant intercourse between Greenwich and New-York—notwithstanding the importation of goods of all sorts, and touched and handled by all classes of people,—the disease did not spread in any one instance. Equally strong is the case of Leghorn, in 1804, when those who fled to Pisa did not communicate the fever ; and, although two of those who removed there actually died of unequivocal yellow fever, no farther sickness took place. The same thing is recorded to have happened at Gibraltar, in 1814, by Mr. Amiel.

Mr. Valentin has adduced numerous authorities, all concurring to establish the non-contagious nature of the disease. Dr. Dupuy, who witnessed both the epidemics of New Orleans, of 1819 and 1820, not only is of this opinion, but declares that all the practitioners, with the exception of two or three, agree in this point. In contradiction to Dr. Gerardin's implied meaning, he says, that those who fled from the city to other parts did not communicate the complaint to the inhabitants of those places to which they fled. The mortality of the epidemic of 1820, in particular, was so dreadful, that, of those attacked by it, seven out of ten died.

It appears, also, that Dr. Chervin, then at New Orleans, had, after witnessing the ravages of yellow fever at Guadaloupe, and actually examining more than four hundred dead bodies, made a tour to the Antilles, and to many parts of the United States of America, in order to collect the opinions of the profession upon the subject of contagion: the result is, that, out of about one hundred and fifty certificates which he obtained, there were not above fifteen who adhered to that doctrine. Dr. Chervin is now at Paris, preparing his materials for publication again. A committee of seven physicians was appointed to examine into the causes of the epidemic at Mobile, (Florida): their opinion as to its local origin is unanimous, and most satisfactory. Such also is the result of the researches of Dr. Chalard, of Baltimore.

Several other analogous authorities are adduced by this able and zealous writer; but it is useless, we conceive, to accumulate farther evidence, which can only tend to swell this article, and tire the patience of the reader. As a specimen, however, of the credulity of the contagionists, we may here mention a fact brought forward by Dr. Pym, and which, we think, can only excite a smile. He states that a man of De Rolle's regiment, in leading a comrade affected with the fever, at Gibraltar, to the hospital, turned sick, and expired on the road; and this is adduced as a proof of contagion. A much stronger circumstance is related by Baron Larrey: it is this:—Dr. Valli, a few days after his arrival at the Havanna, took off the shirt of a sailor who had died of yellow fever, rubbed his own body with it, then put it on, and went to dinner with his host, Don Gonzalez. He remained quite well the next day; but, on the day following, he was taken ill, and died in twenty-four hours. Now this *appears* quite convincing: yet, when we consider that Dr. Valli was just arrived from Europe, and that yellow fever existed at the time, much of the force of the above case is destroyed; and it remains at best but very equivocal evidence. Girardin also tells us that yellow fever raged at Natchez, Baton Rouge, and

other places, at the time of the epidemic of New Orleans in 1820 ; although some of these places, the former in particular, is remarkable for the healthiness of its situation, and is distant 150 miles from the source of the malady : but he admits that all these places were crowded with those who fled from New Orleans ; and he does not inform us whether the disease was confined to these refugees, or whether the untravelled and original inhabitants suffered by the arrival of the strangers. This is, indeed, evidently implied in the account, and is in consonance with his own belief and opinion, but he has left the matter in great doubt.

It would be injustice, in this place, wholly to pass over the strong facts and arguments adduced by Dr. Ferguson, in corroboration of what has been stated above, but it will be sufficient for our purpose to notice two or three of the most striking illustrations he has given us in support of the non-contagious nature of yellow fever, without entering into the merits of his opinions upon other points of the argument. The first of these facts is the exemption which all the inhabitants of Monk's-Hill Barracks, Antigua, enjoyed during the epidemic of 1816, whose duty did not oblige them to sleep out of that garrison ; whereas the soldiers who mounted guard at the dock-yard, and in other low situations, were often seized, while on their posts, with the most aggravated form of the disease ; many dying within thirty hours from the first attack. Another important observation goes to prove that a slight elevation in the immediate vicinity of a marsh is more fatal sometimes than the ground upon a level with it, the higher ground appearing to attract the effluvia. This is in conformity with our own experience in the case of intermittent fever in many situations in this country.

The neighbourhood of trees is also observed by this author, to afford a protection from the poisonous effects of marsh effluvia ; and he gives us the example of New Amsterdam, where fever does not prevail, although it is situated within a stone's throw of a most unwholesome swamp, with a strong trade-wind blowing day and night from it towards the town, and without any other protection than this screen of trees : yet it is found that sleeping under them, or remaining there after sun-set, is almost certain death to any European. It may be added, that the inhabitants are well aware that their exemption from fever is owing solely to this cause.

Upon the whole then, the conviction upon our minds arising from all we have read and thought upon this subject, is, that yellow fever is not a contagious disease ; that it is of local origin ; that it exerts its energy principally during night, at which

time a very transient and temporary exposure to its causes is sufficient to light up the flame in a habit predisposed to receive it; and that although, from causes yet unknown, it acquires such fatal activity at some particular seasons, it is always to be met with as a sporadic affection in those climates, and, if we may believe some authors, even at our own doors.* Notwithstanding all these articles of faith, we are, however, willing to admit that the conviction entertained by some very judicious practitioners, that, although not originally or necessarily contagious, yellow fever may, and does, occasionally become so, is not to be altogether despised; since there does not appear any thing unreasonable in the supposition, that crowded habitations, poverty of living, and personal uncleanness, (to say nothing of moral causes,) may so concentrate and condense the poisonous effluvia as to superadd a contagious property to a disease originally free from it. We do not *know* this to be the case; but some circumstances within our own recollection, occurring to certain portions of the peninsular army, as well as consequent upon the unfortunate expedition to Walcheren, give some colour to this argument, and lead us to suspect the existence of what an able contemporary has denominated *contingent* contagion. The subject is confessedly one of great difficulty; but it is not a mere question of the schools, since upon the belief of contagious diseases depends the propriety of imprisoning a whole population: and we cannot but think it to be abundantly proved that both humanity and policy are equally outraged by the adoption of measures of such extreme and useless rigour. If as, in the case of New-York, the *healthy* population were removed out of the sphere of the malady, which we *know* to be of local origin, we conceive that a stop would at once be put to the spreading of the evil; whereas the removal of the *sick* tends merely to increase the alarm, and leaves only a succession of victims to be swept off, as long as the influence of the miasmata remains in activity. Still more cruel is the close circumvallation of the whole population, which, after all, cannot be so complete as to baffle the courage and ingenuity which the dread of so formidable a disease will frequently inspire.

Before we proceed to the direct question of importation, there are a few interesting facts which must be mentioned, and from which it would appear that a disease similar to yellow fever in all its leading symptoms, and unfortunately also in its fatality, has, upon certain occasions, been produced on board ship, with-

* Valentin says that sporadic cases are met with at Brest occasionally.

out the most remote possibility of supposing it to have been exported from any of the known sources of that malady. The most remarkable of these events is recorded by M. Beguerie, who has seen the yellow fever in the West Indies, and experienced an attack of it in his own person. It appears from his account that a French flotilla, with troops on board, which sailed from Tarentum for St. Domingo in 1802, after having been driven about the Mediterranean by stress of weather, and having been obliged successively to put into the ports of Leghorn and Carthagera, sailed from this latter place in the month of August. The heat of the weather had been dreadful in the months of May, June and July; the provisions on board are represented as of the worst quality, and the salt fish in such a state of putrefaction, and giving out so horrible a stench as to oblige them to have it thrown overboard. A fever broke out on board this fleet soon after they sailed, and lasted until their disembarkation, acquiring force as they approached the tropic. M. Beguerie assures us that the symptoms of this fever differed only from those of yellow fever *by an almost imperceptible shade*.

In the month of August, 1802, an American vessel arrived at Marseilles from New Providence, after having touched at two Spanish ports. No epidemic reigned at either of these places; neither had she any sick on board during the passage, nor during a quarantine of fourteen days; but, after the crew had disembarked, the second and third officers and four sailors were successively attacked with yellow fever, and died; three in different houses in the town, and three at the lazaretto; but it did not spread either among the inhabitants, or to the physicians and attendants of the sick. The writer of this article (M. Fournier) is therefore induced to believe that, in this instance, the vessel must be compared to a spot where the air is hot, moist, and stagnant, and rendered impure from many sources of corruption.

One more very strong instance of the development of yellow fever on board ship, is recorded by Dr. Ferguson: it is the case of the *Regalia*, transport, which was employed in bringing black recruits from the coast of Africa to the West Indies, in 1815. This vessel is represented as leaky, and having taken on board a quantity of green wood in Africa; her ballast also was foul, and had not been changed from her quitting England, nor for any discoverable time previously. The black recruits were crowded in this vessel, many of them afflicted with fluxes, ulcers, &c. The provisions were defective, both as to quantity

and quality ; and the crew, prior to their sailing from Africa, were healthy. It appears authenticated that this ship arrived at Barbadoes with yellow fever on board, in the month of August : that, owing to some negligence, she was not put under quarantine, but communicated freely with the Saints, Antigua, and Guadaloupe, landing those dying of the disease among the inhabitants and at the hospitals of those places, without communicating the disease at either of them ; and, finally, after having undergone a thorough purification, sailing from Guadaloupe to Europe, crowded with French prisoners and their families from the jails, under the most dangerous circumstances of health, with a case of yellow fever dying on board the day before she left Basseterre Roads ; but without any contagion spreading to the other passengers, and without importing it at the port which she ultimately reached.

Dr. Lefort, of Martinique, in a letter to M. Valentin, states that the yellow fever broke out spontaneously on board a vessel called the *Euryalus*, cruising in the tropical seas, without having touched at any port in those seas ; and this he declares to be the fifth instance of the kind, within his own knowledge, in a period of four years.

M. Moreau de St. Mery adduces the following fact as an unanswerable argument in favour of contagion : we do not see it in that light ; however we are bound in candour to relate it. The *Palenicrus*, a French brig, having the yellow fever on board, and cruising in the West Indies, encountered the English brig *Carnation*, coming direct from Europe, the crew quite healthy. A combat ensued, and the English brig was captured (a rare occurrence,) by boarding : the English sailors were consequently removed as prisoners into the French ship, and took the disease. Now, we think this and other examples quoted above will enable us to clear up this difficulty, without the necessity of recurring to contagion ; for, if the French vessel was the focus of the yellow fever in this last instance, she would stand, in relation to the English sailors, exactly as a village or town surrounded by a contaminated atmosphere would stand with respect to its inhabitants, or to strangers arriving there from other quarters : but if, on the contrary, a French sailor labouring under the yellow fever had been sent on board the English ship, and the disease had spread amongst the healthy crew, we should then be under the necessity of admitting that a case of contagion had been made out, beyond the reach of cavil or dispute.

A late Number of a foreign periodical work, contains an account of a sickness occurring on board a vessel called the *Ar-*

thur, which sailed from Rouen in 1818, laden with *poudrette*, a species of compost made from human ordure. On the voyage to the West Indies, a disease broke out among the crew, of so alarming a nature, that one half died on the passage, and the rest arrived at their destination in a miserable state of health. Those who unloaded the vessel suffered equally from the same disease. M. Parent, who was deputed by the French government to trace the cause of this accident, discovered that a similar fate had attended the crew of a little bark laden with the same material at Nantes; although the workmen, who prepare the article upon a very large scale, and who perform the process in the *open air*, are found to be remarkably healthy. The nature of the disease produced in both these instances was a fever of that type called by the French *fièvre adynamique*, the most prominent symptoms being head-ach, pains in the limbs, fever, nausea, and vomiting. It is not stated whether any of the crew of the last named vessel died; nor do either of these instances go the whole length of proving that the malady produced was actually the yellow fever; but they establish this fact, that the putrefaction of animal and vegetable matter, aided by warmth and moisture, is capable of producing a disease resembling yellow fever in some of its most prominent features, as well as in its ratio of mortality.

From a due consideration of the foregoing facts, and many others equally strong, resting on authorities the most respectable and undoubted, we do not perceive any thing paradoxical in the assertion, that, whilst we believe yellow fever to be in its nature non-contagious, we are clearly of opinion that it may be, and often has been, imported. That it has ever spread by importation, or that the mortalities that have occurred so frequently in the New World, as well as in Europe, are to be ascribed to this source, we most positively deny; but, when, from a concurrence of local causes, an epidemic has broken out, and it becomes an object to trace it to some palpable and known origin, can we be surprised that it should be discovered to have existed on board some ship from the West Indies, or that it should have developed itself on board some vessel during her passage? In fact, numerous examples of the sort are upon record; but does this circumstance establish a necessary connexion between the disease on board and the epidemic on shore? We think decidedly not; for repeated experience has shown, that men brought from on ship-board, and dying of yellow fever at different houses, have not spread the disease to any single individual; and again, epidemics have sometimes raged, of the importation of which not only no evidence is offered, but not

even any suspicion existed. The shores of the Mediterranean have enjoyed an exemption from this calamity for many successive years. Is it reasonable to suppose that, in all that time, the quarantine laws have never been violated or evaded, when such instances are discovered to be of every day occurrence, when they are wanted to be brought forward as evidence of the foreign origin of the complaint? But, in truth, such inquiries have never been thought of until the breaking out of the fever has given rise to them; and, when instituted, if a solitary case of yellow fever has been traced to have occurred within a short period of the invasion of the malady, the problem has been considered as solved, and all collateral and minor evidence tortured to meet this explanation. But, if we believe that, in any one well attested instance, yellow fever has been traced from a West Indian or American vessel without communicating contagion, the argument in favour of that doctrine is at an end, and importation may still be credited without considering contagion as a necessary consequence.

The course of our narrative has now brought us to the consideration of those frightful scenes which have occasionally been exhibited on the shores of Italy and Spain, but which have, since the year 1800, been not only of more frequent occurrence, but more fatal in their results. That Cadiz, Carthagena, and Malaga, have been visited three or four times in the course of the eighteenth century by destructive epidemics, and that these epidemics were really the yellow fever, there can be no manner of doubt. The writings of contemporary authors are conclusive upon this point, and Lind was himself a witness to one of these visitations. The more recent occurrences at Cadiz and Gibraltar have given birth to such numerous testimonies of the most respectable kind, that there can be no hesitation in asserting that the first of our questions is satisfactorily answered in the affirmative; and nothing now remains for us but to examine the documents that relate to the fever at Barcelona in 1821, and the only point of accordant that can be discovered between the various individuals who have so zealously devoted themselves to the contemplation of this malady, is the undoubted fact of its having been the yellow fever.

We shall now, without farther comment, proceed—1st, to lay before our readers, as succinctly as we are able, the substance of the Report made by the French commissioners to their government relative to this epidemic, as bearing the stamp of authority; and afterwards present them with a Manifesto, published by the spontaneous union of several physicians, both English, French, and Spanish, in Barcelona, and which is, in fact, a

direct contradiction to all the assertions contained in that report, without having been originally intended as such ; since, at the time of its publication, the report of the French commissioners was not known at Barcelona. In the course of this analysis, all the facts connected with this melancholy visitation of Providence will become developed ; and the conclusions which we think must inevitably result, will tend, in a very satisfactory manner, to confirm the opinions attempted to be maintained in the former part of this paper.

With regard to the report of the French commission, it is but cold language to say that it is one of the most extraordinary documents ever presented to public notice ; it would, perhaps, not be too harsh to affirm that it is also the feeblest in reasoning,—the weakest in fact, and the strongest in assertion, that ever issued from the press. It bears the most decided marks of preconceived opinions, but is, fortunately, so hastily and crudely put together as to carry the conviction of its weakness in every page : in short, it displays a determination to discover, what we are persuaded it was intended to find, an excuse for a sanitary cordon. The gentlemen composing this commission were originally five in number,—namely, Messrs. Bally, Francois, Pariset, Mazet, and Rochoux ; the whole of them, with the exception of the last, most decided contagionists,—a circumstance which alone will afford a tolerable guess at the impartiality that may be expected from an inquiry conducted by such a junta. Their personal narrative is shortly thus : they quitted Paris on the 28th of September, and arrived at Barcelona on the 9th of October, at seven o'clock in the evening ; and, by half past eight, they had begun their labours, and visited some sick.

As the commission was so soon to be freed from the presence of M. Rochoux, we shall dismiss him at once, giving the motives of his secession as represented to us by his companions, and which, if correct, is ludicrous enough. He escaped by a piece of logic. “The fever that rages at Barcelona,” he said, (we quote the words of the remaining commissioners,) “is either the yellow fever of the Antilles, or it is not : if it is, it has no contagious property, as we shall see ; but, if the disease has any thing contagious in its nature, I am not sent here to study a malady of that kind, and therefore I shall separate myself from you immediately.” In consequence of this opinion, they assert that M. Rochoux retired to Garcia on the 14th, and, after divers projects, separated himself entirely from his comrades. They more than insinuate, that M. Rochoux was induced to adopt this line of conduct in consequence of the death of M. Mazet, which took place on the 22d instant, after an illness of nine

days : he was taken ill in the night between the 12th and 13th, having only seen and touched two sick persons. It is, however, but justice to M. Rochoux to observe, that, as the commissioners have been detected in perverting the truth with respect to another of their countrymen, (who indeed, has proved the fact against them in the most unanswerable manner,) we are therefore bound to give that gentleman the benefit of the doubts which such unfair and illiberal conduct has necessarily excited in our mind.

The commissioners then continue their narrative as follows : Dr. Audouard, who was sent to Barcelona by the minister of war, arrived there the day after M. Mazet's death ; but he did not join them, he established himself at the botanic garden. They declare that they met him but seldom ; that he was accustomed to work independently of them ; which, joined to the sickness of two of their number, separated them from each other, without, however, causing any division between them. Their history then concludes with some account of the mode of conducting their researches. In the night of the 24th, Messrs. Bally and Pariset were attacked with the disease ; M. Bally suffered most. During their secession, M. Francois continued his visits, and made the first *examinations of dead bodies* ; for, until then, they had no instruments. An assistant fortunately came from Perpignan, a M. Jouarii, "poor, but full of zeal." Morning and evening he attended the visits of M. Francois, and in the day wrote what was dictated to him by M. Bally. This latter gentleman, when enabled to go about, employed him especially in anatomical examinations. From the 6th to the 19th of November, M. Bally resumed his duties at the hospital, and between these dates the clinical observations and dissections are represented as having been more regular and complete. On the 20th of November they finally quitted the place, their health beginning to suffer again.

We must stop here one moment for the purpose of reviewing the last paragraph ; and it will hardly be believed, yet such is the fact, that Dr. Audouard declares that M. Francois never put his hands into the dead bodies at all ; that, instead of seeing each other but seldom, he met them every day : that the first dissection made in the Hospital of the Seminary was made by him, on the 31st of October ; and that M. Bally did not open any bodies until the 8th of November ; whilst Drs. Revera and Campmany, whose names the commissioners do not even deign to mention, had pursued their anatomical investigations throughout the month of August.

Having now sketched the personal adventures of these gen-

tllemen, we come to the substance of their researches: they begin by declaring the salubrity of the situation of Barcelona, but especially of Barcelonetta, the streets of which town are wide and regular, and the foundation a bed of granite rock. They, however, confess that remittent fever occasionally reigns at this place. With regard to the condition of the port, they assert it to be perfectly clean, and that the water is pure, clear, and limpid: there are certain pools of stagnant water upon the beach, to be sure, but then they are only a few toises in extent, and but three inches deep! They next call to their aid the evidence of M. Simiane, captain of the French brig *Josephine*, who is destined to make a considerable figure in this history. This connoisseur in stinks is introduced for the purpose of proving that the morning wind, which regularly blows from the town, and which constantly conveys all the emanations from the city to the shipping in the harbour, never brought with it any odour which displeased *him*. Now, without disputing this gentleman's taste, we cannot help thinking that the odour from the cleanest city in the world, cannot be fragrant; but, when that city is a Spanish one, we can only pity the cause which is obliged to have recourse to such feeble support. It appears that the streets of Barcelona are narrow and tortuous; that they are traversed by canals, which receive the filth of the city to convey it to the sea: these canals are covered with large stones, but so badly joined, that any odour may readily escape and mix with the air. These inconveniences, they allow, are sufficiently unpleasant where the temperature of the air is so high, but they are not much felt excepting after rain, and in Catalonia this does not often occur. They admit that it did rain for some days after their arrival; but they forget to mention the fact of the great increase of sickness that immediately followed those days of rain, and from which the ignorant had expected great benefit. However, they get rid of these suspicious circumstances by reminding us that Barcelonetta was visited by the fever before Barcelona. The thermometer, which had been, during the months of April, May, and June, and part of July, never above 15° of Reaumur, rose at this latter period as high as 22°. On the 12th of July, the fete of the Promulgation of the Constitution was to have been held, but, as the weather was bad, it was put off until the 15th. The weather being remarkably fine, on that day the whole population was poured upon the ramparts, the quays, and the vast esplanade of Barcelonetta; the vessels in the port were also crowded with spectators. At this period there were a great number of ships in the harbour, both Spanish and others, recently arrived from the Havanna and Vera Cruz.

Some of these had suffered from yellow fever at those places, some on the passage ; the dead had been thrown overboard, but their goods, clothes, bedding, &c., covered with black vomit, had been preserved on board. The eternal M. Simiane is again brought forward to prove that these things were exposed to the open air under his own eyes ; although the captains had the art to elude the vigilance of the medical police, and contrived to attribute all the deaths that had occurred to falls from the masts, or other accidents. In order to avoid the quarantine laws, the sick were forced to shave and dress themselves, and appear on deck among the crew and passengers, as if in perfect health ; which proves, at least, that neither the crews nor the passengers had found much reason to dread the contagion. Now the marvellous part of the story is, that M. Simiane saw all these things, which the medical police either could not or would not see ; and yet this vigilant and all-seeing captain never said one word upon the subject to any but to these commissioners, and that in the month of October, although the Havanna fleet arrived at Barcelona thirty-three days before any sickness was even *talked of* at that place.

To continue.—On the 15th of July, all the vessels in the harbour were crowded with spectators, and it may be *supposed* (mark this word again in an official paper !) that many of the women and people passed the night on board, stretched upon the mattresses and coverlids of those who had died. The first ship they mention is *Le Grand Turc*, which arrived at Barcelona on the 29th June, 1821, in sixty-one days from Havanna. A little while after, the captain, M. Sagreras, brought his family on board, which family resided at Sitjes ; they staid there but one or two nights : on quitting the vessel they were taken ill, and all, comprising the wife, children, and a female servant, died at Barcelonetta. Now this would, indeed, be an afflicting tragedy, and a strong case, but for one trifling circumstance,—not one word of this story is true ; and M. Sagreras, his wife, children, and maid, are, we feel pleasure in saying, all alive and well ; and, what is still better, have not had the fever at all.—This fact is stated upon the authority of M. Zaha, a merchant of Barcelona, an intimate friend of M. Sagreras. It seems that M. Rochoux was himself the author of this strange mistake, which he communicated to M. Pariset ; and therefore, though the commissioners are to be acquitted of any intention to deceive, they have given us, by inserting this story without making proper inquiries as to its authenticity, an additional proof of the eagerness with which they seized upon every thing which could tend to confirm the opinions they had previously adopted.

It is farther asserted, that thirty-five of the people who had been on board this ship on the 15th of July, died a few days after. Now here again they make an unfortunate mistake; for no epidemic sickness occurred in Barcelona until the 3d of September, just fifty days after the day of the fete. This is proved by the official documents published by the municipality.

We must now proceed to dissect their second story, which relates to a vessel named the *Nuestra Senora del Carmen*, sixty-three days from the Havanna, and having touched at the ports of Alicant and Carthagená. She arrived at Barcelona on the 11th of July. Three of the crew had been ill with yellow fever at the Havanna, and one had died; the remaining three, it is added, had *probably* had the disease, as they had been to America before. Now observe what follows: This ship had received a poor passenger on board at Alicant, for the purpose of conveying him gratis to Barcelona. Two days before the vessel reached that place, this poor man fell sick: and this is the person alluded to as having been obliged to dress himself and appear upon deck as if in health. On the evening of their arrival he was disembarked, and died the next day. Had this man the black vomit? Ask the commissioners, and they answer their own question in the following satisfactory and philosophical manner. Many people, they say, affirm that he had; but, at all events, it cannot be denied but that so mortal a malady had a great affinity to yellow fever! They also think it reasonable to *suppose* that his disease must have propagated itself in the house where he lodged; for, being poor, with what could he repay the hospitality of those who received him?—With his clothes; and no doubt they were made use of by this family.

Let us now just recapitulate this precious, this unique piece of evidence. Nothing is known of this poor man beyond the fact of his having been brought from Alicant, and dying at Barcelona the day after his arrival; but, by the aid of three or four suppositions, he is convicted of having died of the yellow fever, —of having communicated the disease to the inmates of the house where he lodged, and that by means of his clothes, with which they *suppose* he paid for the hospitality he received.

One more circumstance, and we have done, and this relates to our old friend M. Simiane, who, it is asserted, although in health himself, communicated the disease to the landlord of the house at Barcelonetta in which he lodged.

The succeeding pages contain some information relative to the number of deaths during the whole course of this epidemic, and they are calculated at from 17 to 18,000. During its greatest height, from 450 to 500 dead were carried out of the differ-

ent gates of the city in one day. In this instance, as in all previous ones, it was observed that the bakers, and those whose occupations exposed them to great heat, suffered especially; whilst those who were addicted to excesses of any kind were most liable to be attacked. Contrary to what is usually observed, strangers from the northern countries of Europe especially did not appear so obnoxious to the influence of the fever as the natives.

We trust that we may be excused from pursuing the details of this report any farther, especially as we must now bestow a little attention upon the Manifesto we have already alluded to, which will afford abundant and direct contradiction to those assertions of the French commissioners which want of time and space oblige us to pass over; but, before we remark upon that production, we beg to make an extract or two from the recantation of M. Puguillem, formerly a decided contagionist, but whose name is to be found attached to the manifesto of the adverse party, and whose abjuration is addressed to Dr. Lassis. Among the motives which induced this gentleman to change his opinion are the following: "The regular march of the fever from east to south-west,—the existence of sick in different parts of the town before all communication with Barcelonetta was cut off, its attacking those who were most rigidly sequestered,—the fact of several individuals in one house being seized with it at the same time. Messrs. Bally, &c. (he continues,) went about seeking only those facts which appeared to favour their own cause; and, in reply to their remark, that one positive fact is equal to thousands of negatives, he says that their positive facts lose all their force when submitted to the test of rigid criticism; a point which, unless we deceive ourselves, we have sufficiently shown above.

In the Lazaretto, in the Hospital of the Seminary, in the General Hospital, neither the medical men nor those who attended the sick suffered the slightest attack. The sisters of the General Hospital escaped with perfect impunity; whereas the purveyor, the apothecary in chief, and others who never entered the wards, and who studiously avoided all contact with the sick, experienced an attack. It is impossible to find, he adds, one single well-attested instance of a sick person quitting the town, and spreading the disease to any of the neighbouring communes; and he urges the strong fact of the inhabitants of Sans, Garcia, and many other places, having escaped the disease, notwithstanding they were included within the cordon which enclosed Barcelona. Hence he thinks it extremely unlikely that contagion could be brought from the Havanna,

when even the small distance of Garcia from the city was found sufficient to impede its communication.

The last remaining document (the Manifesto,) is signed by the following gentlemen : Dr. Maclean, Dr. Lassis, Dr. Rochoux, Francisco Piguillem, Francisco Salva, Manuel Duran, Juan Lopez, Salvador Campmany, Ignacio Porta, Jose Calveras, Antonio Mayner, Raymuno Duran, and Benaventura Sahue. Upon the authority of these names, it is asserted that sporadic cases of yellow fever were met with both at Barcelona and Barcelonetta, as early as February and March of the year 1821 ; and Dr. Lopez himself was called in consultation to a man who dwelt behind the Exchange, and who died of yellow fever, with petechiæ and black vomit, in the early part of February ; and it will be recollected that the accused vessels did not reach the port until the latter end of June. After the disease broke out, numbers of sick retired to Sitjes, Malgrat, &c. but no sickness ensued at those places.

With regard to Tortosa, where the fever was supposed to have been introduced by a dealer in hams, the Junta of Health affirm that, many days prior, a sick man was brought from on board a bark that had never been at Barcelona. It is to be remarked also, that towards the end of summer, that town is always visited by fevers of a very violent character.

With respect to the state of the port, it is asserted, that such was the condition of the sewers, the canals in the streets, &c. that, towards the end of June, it was impossible to pass along the sea-wall without being inconvenienced by the stench produced by the decay of animal and vegetable matter in its vicinity. The examination performed by the commission charged with cleansing the port, proves that the Arequia was obstructed at its mouth by a sand bank, which had caused the accumulation of a mass of stinking water, loaded with the impurities furnished by all the manufactories, slaughter houses, &c. situated upon the banks of this rivulet, from whence a most insupportable stench arose. The modern works of the port appear to have increased the evil, and have produced a source of infection which did not formerly exist.

The mortality was most especially great in those streets in the line of the port ; whereas, in those exposed to the north, and more distant from the infected spot, but few sick were found.

The time of the year in which the fever broke out is precisely the period in which epidemics make their invasion in hot countries : this fact has been verified more than once in Spain.

The fever has not been able to establish itself beyond the

walls of Barcelona. No person has been proved to have caught the disease out of the sphere of the operation of local causes.

At the Marine Lazaretto, between the 7th of August and the 13th of September, 79 cases were received, 55 of whom died: not one individual, out of 32 employed in that establishment, took the disease. At the Seminary, 1767 sick were admitted, 1293 died; but only three cases of the fever occurred among 90 people employed in that establishment.*

M. Ribera, in dissecting a body, wounded his finger deeply with the scalpel: nothing beyond a slight swelling of the axillary glands took place.

Many, who had suffered from the disease in America, contracted it again, and some of these died.

Many families, who secluded themselves in the most rigorous manner, found their precautions in vain.

At the time the barrier was placed at Barcelonetta, on the 3d of September, there were only nine sick in the place: on the 10th instant, they amounted to 162; and, finally,

Those who had quitted the place with all their effects did not spread the disease at their new residences; although some few died of yellow fever which they carried with them.

Such, among many others, are the strong, and we think unanswerable facts which the perusal of this able paper has enabled us to lay before our readers, as confirming the view we have taken of this complicated and highly interesting subject. We, perhaps, have been tedious, and have accumulated evidence which many may consider as redundant; but we were anxious to collect in one view all the most important remarks which the experience of the last fatal year had produced; in doing which we have been as careful as possible to exclude all doubtful evidence, on whichever side of the question it seemed to bear. In the same spirit, we must therefore remark, that, whilst we agree with the authors of the Manifesto in most of their views, we were sorry to notice some allusions to the plagues of London and Marseilles, which we think they have unnecessarily introduced in that paper: they savour rather too strongly of the doctrines of the gentleman whose name appears at the head of the list of signatures; doctrines to which we cannot subscribe, since we believe the plague to be a disease quite distinct in its nature, and we are not prepared in this instance to dispense with those precautionary measures, by means of which, we firmly believe, Europe is indebted for its long exemption from the visitation of that tremendous malady.

* M. Jouarii made the fourth.

Having anticipated in the foregoing pages nearly all that is necessary to be said respecting the works at the head of this article, we have only to say that Dr. Girardin deserves the praise of having given us, in his little memoir, a very accurate topographical account of Louisiana, and the neighbourhood of New Orleans in particular; an example which we hope will be followed by all those who undertake to discuss the subject of all epidemics, wherever they are to be met with. It has been already shown that the Doctor is a modified contagionist. In the latter part of his book he notices, and recommends to the ruling powers, the necessity of stationing raw European troops in such situations, in the different islands, as may ensure them from the operation of the local causes of the disease.

Baron Larrey's paper is principally remarkable for his speculative doctrines with respect to contagious virus, of which he distinguishes two kinds,—the fluid, and the gaseous or miasmatic: the former are the syphilitic, the small-pox, and vaccine poisons; in the latter class he ranks the yellow fever. The venereal virus, he goes on to say, chiefly affects the lymphatics; it can remain a long time inactive in the system, but, when it begins to act, it continues its progress unto the death of the patient, unless arrested by curative means. The variolous poison has a particular affinity to the skin: it is capable of producing a similar disease, but only for a determinate period, after which it becomes inert. The pestilential virus acts chiefly upon the brain and nervous system, though it is occasionally arrested at the nervous plexuses of the armpits and groins; and M. Larrey does not believe it to have any connexion with the lymphatic system. The virus of the yellow fever he considers as the most subtle and volatile of the whole; that it has but a momentary existence, and which corresponds to the acme of the disease. The virus resides in the cutaneous transpiration, or in the eruptions when they are met with.

We see in this attempt of Baron Larrey's a love of generalization and system, to which we think our zealous and imaginative neighbours are too much addicted. It would be easy to contest this explanation step by step, but we have already devoted so much space to this discussion, and we think the weak points of this arrangement so evident, that it is scarcely necessary to point them out to the medical reader. The just reputation that M. Larrey enjoys rendered it incumbent upon us, however, to state his opinions; and we need hardly say that, in conformity with those opinions, he advocates the propriety of precautionary measures.

MONTHLY SUMMARY

OF PRACTICAL MEDICINE.

I. ANATOMY AND PHYSIOLOGY.

Mr. SHAW on the *Par Vagum*.

"The par vagum connects the larynx, pharynx, lungs, heart, and stomach; and the sympathies it produces in health and disease, are very many. Disorder of the stomach deranges the secretion of the larynx; a vomit, or nauseating medicine will loosen the viscid secretion of the larynx and pharynx; disorders of the stomach, acting through the pulmonic plexus, will occasion cough; and medicines acting on the stomach will alleviate asthma. Through the plexus of this nerve, the heart and lungs are united, ever corresponding in action. When life seems extinguished by suffocation, (in experiments on animals) pricking the heart will be followed by respiration; and in the apparently drowned, the play of the lungs, in artificial breathing, brings after it the action of the heart. It is well known how disease of the lungs affects the heart; but it is not so generally observed how much disease of the heart resembles pulmonary disease.

"Looking to the distribution of the par vagum on the stomach, and the plexus of the nerve, in its course upon the œsophagus, it will not appear surprising, that disorder of the uterine system, affecting the stomach, and also primary disorders of the stomach itself, should produce the *globus hystericus*, or paralysis, or spasms of the pharynx and œsophagus. Although the heart and stomach be separated by the diaphragm, yet through this nervous cord they are united: and this explains why disorder of the stomach should produce such changes on the heart's action. The pause, or intermission of the pulse, which in many diseases, is a fatal symptom, is often produced in a manner less alarming—merely by irritation of the stomach. Seeing these many connexions of the stomach with the vital parts, through this nerve, our surprise ceases at a blow on the stomach proving instantly fatal."—*Manual of Anatomy*.

II. SURGERY AND MIDWIFERY.

Mr. CHURCHILL on *Acupuncture*.

The term acupuncture is employed to designate an operation which is practised in China and Japan, for the cure of various diseases. It is performed by needles of the finest gold or silver which must be exquisitely slender—finely polished—curiously pointed—and so tempered as to have the requisite degree of hardness. “The handle of the needle being held between the thumb and fore finger, and its point being brought into contact with the skin, it is pressed gently, whilst a rotatory motion is given it by the finger and thumb, which gradually insinuates it into the part, and by continuing this rolling, the needle penetrates to any depth with facility and ease. The operator should now and then stop to ask if the patient be relieved; and the needle should always be allowed to remain five or six minutes before it is withdrawn.” This mode of introducing the needle produces little or no pain, nor is it attended with hæmorrhage. The Asiatics employ this agent in affections of the abdominal viscera; in Europe its use has been chiefly confined to local diseases of the muscular and fibrous structures. We subjoin three cases illustrative of its efficacy: the first taken from the practice of Dr. Haime, of Tours; the second as recorded by Mr. Churchill who has published a treatise on this subject; and the third by Mr. Jukes, of Westminster.

Case 1. “A woman had suffered for several days with wandering rheumatic pains, which continued daily to increase in violence; there were, however, at all times fixed pains in the shoulder and in the right arm, which acquired such a degree of intensity by intervals, that the patient could not refrain from crying out. She was in this state when she came to consult me: finding, however, neither alteration in the pulse, nor increase of heat, nor redness of the skin, nor tension, nor swelling in the part affected, I considered the case to be simple rheumatism, and passed the needle in the middle of the arm, between the fibres of the triceps brachialis muscle; the place designated by the patient as the seat of the pain. The pain was driven into the fore arm, and the second puncture caused it to descend into the hand, and a third being made in this part, caused it totally to disappear, and the patient said with delight and astonishment, she was cured; and was so satisfied with this treatment, that she spoke of it to every body.”

Case 2. A bricklayer, 30 years of age, came to Mr. Churchill, who has described his case as follows: “The body was bent

at nearly right angles with the thighs, and his countenance indicated acute suffering. He had been attacked, he said, three days before, with darting excruciating pains in the loins and hips; every motion of the body produced an acute spasmodic pain, resembling an electric shock; and the attempt to raise the body to an upright position was attended by such insupportable agony, as obliged him to continue in this state of flexion rather than encounter it by altering his position. There was no more constitutional disturbance than was to be expected from three days and nights of constant pain; the pulse was a little quickened, and the tongue white, but I attributed this derangement to the irritation set up by the pain and loss of rest. I directed him to place himself across a chair for support during the operation, and I immediately introduced a needle of an inch and a half in length into the lumbar mass on the right side of the spine; in two minutes time I observed that he seemed to rest the weight of his body more on his limbs, and in the next instant, without any inquiry being made, he observed, that he felt his limbs stronger from the "pain having left his hips." He next plainly indicated that the disease was lessened, by raising his body; from which he only desisted, by being desired to remain at rest, through fear of the needle being broken. The instrument having remained in its place about six minutes, the patient declared he felt no pain, and could, if he were permitted, raise himself upright; it was then withdrawn; the man arose, adjusted his dress, expressed his astonishment and delight at the sudden removal of his disease, and having made the most grateful acknowledgments, left the house with a facility as though he had never been afflicted."

Case. 3. In this case the patient had suffered for three days from severe pain in the loins, which was attributed to a sudden transition from a warm room to a foggy nocturnal atmosphere.

"Within the last 12 hours it had acquired such a degree of violence that even respiration was insupportable, except the body were fixed in such positions as permitted the least possible motion. An attempt to resume the erect posture, produced violent spasmodic action of the muscles of the back, which appeared to be communicated by sympathy to those of the abdomen and chest, impeding respiration with a convulsive effort; nor could any motion of the body be made without producing this distressing effect. Neither fever nor general derangement was present; the secreting organs of the body properly performing their function, proved the external locality of the disease. In this state of things, acupuncture presented itself to us as likely to afford relief, and it was therefore immediately resorted to.

"I applied an exhausted cupping glass upon the integuments, opposite to the second lumbar vertebra, and midway between this bone and the edge of the latissimus dorsi muscle, which was the part referred to as the most concentrated spot of the disease. As soon as a needle had penetrated to the depth of an inch, a sensation arose, apparently from the point of the instrument, which the patient described as resembling that which is produced by the passage of the electric aura, when elicited to a metallic point, diffusing itself at first to some distance around the part, and then extending itself up the side to the axilla. This sensation continued to be felt for the space of a minute, when a violent pain struck into the right iliac region, immediately above, and corresponding with the line of, the crista of the ilium. No pain was now felt in the back, except a dull aching of about two inches in breadth on the right side of the spine, extending from the lower part of the neck to the sacrum, corresponding with the situation and course of the longissimus dorsi muscle. The pain above the hip now began to subside, and in the space of three minutes from its commencement, had ceased altogether.

"The uneasiness along the course of the spine still remaining, a needle was introduced about an inch from one of the upper dorsal vertebræ, and another in a corresponding situation to one of the lower lumbar vertebræ. The pain in the right side was in a few minutes entirely dissipated, and the patient arose, declaring that, excepting a slight degree of uneasiness on the posterior part of the chest, near the angles of the inferior ribs, he was completely relieved from the disease. He however, requested I would pass a needle in this last situation; on effecting which, the pain soon left its last refuge, and the patient dressed himself, and left his house in the most perfect health. I have this day seen him, and he assures me that he has not experienced any return of the affection.—*Medico-Chirur. Review*.

III. PATHOLOGY AND THERAPEUTICS.

Dr. ABERCROMBIE on *Ischuria Renalis*.

"The disease seems, in general, to come on suddenly; and, at its commencement, there is usually some complaint of pain, which varies considerably both in its seat and its severity. It is sometimes referred to the region of both kidneys, sometimes to one side, and sometimes extends through the abdomen, like the pain of colic. It is in some cases a dull uneasiness, rather than actual pain. There is frequently, but not always, vomit-

ing; the pulse is in some cases frequent,—in others natural. The peculiar symptom is a sudden diminution of the secretion of the urine, which soon amounts to a complete suspension of it. The affection is probably at first considered as retention; but the catheter being employed, the bladder is found to be empty. This leading symptom then continues; the others vary; there being in some cases continued pain, in others the pain ceasing. Vomiting may occur at various periods, and there is sometimes a peculiar feeling of extreme sickness and exhaustion, which at first is apt to convey the impression of sinking, but which is often found not to be of this nature, by being accompanied by a full, firm pulse. With these, and some other varieties, the symptoms now go on for several days; after which, the patient generally begins to talk a little incoherently, and shews a tendency to stupor. This increases gradually to perfect coma, which in a few days more is fatal, death being sometimes preceded by convulsion; and, in some cases, convulsion has been suddenly fatal, with very little coma. The periods of the disease vary considerably; but in general, I think, the occurrence of coma may be expected about the fourth or fifth day from the time when the secretion of urine became completely suspended.

On dissection there is usually found effusion in the brain, though sometimes it is in small quantity. I have not observed it to have urinous qualities, as it has been said to exhibit in some cases; but this curious point remains to be investigated. The appearances in other organs vary considerably, and are frequently obscure and unsatisfactory. In some cases, there is reason to believe that the original disease was an inflammatory action in the kidneys themselves, or in one of them; but in others, no morbid appearance can be detected there. It seems probable that the disease may be excited by inflammation seated in the neighbourhood of the kidneys, as in the peritonæum, perhaps in the spleen or its covering, and sometimes in the liver. In a case by Schenckius, in which the disease supervened upon a blow on the loins, there was an abscess among the internal muscles; in one by Lælius a Fonte, the left kidney was found black; and, in several cases by Hildanus and Bonetus, there were extensive marks of inflammation in the kidneys and neighbouring parts.

A remarkable circumstance in the history of the disease is, that it seems in some cases to arise from a cause affecting one kidney, the other being quite healthy.

The causes of the disease, in its idiopathic form, are not well ascertained: it is frequently referred to cold, especially to cold

applied when the body is much heated. I have reason to believe that it may supervene upon gonorrhœa, especially when the discharge has been suddenly checked by improper treatment.

The prognosis is in general unfavourable, and the fatal termination is usually by coma. This may be dreaded when the suspension of urine has continued four or five days; but in a case described by Dr. Laing, in Vol. X. of this Journal, there was a complete suspension of the secretion for nine days, and yet the case terminated favourably; the urine, after that interval, beginning to flow, and soon returning to the healthy condition. On the other hand, in Case II. of this paper, coma appeared about the fifth day from the suspension of the secretion, and was fatal, though the urine was secreted in its full quantity for two days before death. In a case described by Dr. Home, there were dropsical symptoms. This does not seem to be a common occurrence, though *a priori* we should expect it to be so. Some other cases, again, have been suddenly fatal by convulsion, without continued coma.

The most singular circumstance in the pathology of the disease, is its tendency to terminate by coma and effusion in the brain. The minute connection here will probably ever elude our researches, but in a practical view it is of great importance, and presents a most interesting subject of investigation. There have been various observations, or perhaps conjectures, in regard to the influence of the urinary secretion upon the functions of the brain, and the effect of diuretics in preventing or relieving certain affections of that organ. They were long ago supposed to prevent or diminish the effects of intoxicating liquors, and, by writers of eminence, they have been recommended in epilepsy and mania. Whatever importance we may attach to this suggestion, I believe that the connection pointed at by these observations, is worthy of some attention in affections of the brain.

On the other hand, it is an important fact to be kept in mind in this inquiry, that cases have occurred, in which the secretion of urine was completely suspended for a considerable time, without being followed by any affection of the brain, and sometimes without the occurrence of any urgent symptom. In some of these cases, copious perspirations occurred, or other vicarious discharges, but in others, no such discharges took place. Dr. Parr mentions a case in which the secretion was suspended for six weeks, and there was no vicarious evacuation, except a copious perspiration for a day or two; medicine seemed to give no relief, and the secretion at last gradually returned. In the *Biblioth. Med.* for 1815, a case is related, in which the secretion was suspended for several months; it proved fatal by gra-

dual exhaustion without any urgent symptoms. On dissection, the omentum was found soft as if decomposed; the kidneys were imbedded in masses of a fatty looking substance, which had the hardness of scirrhus; the kidneys themselves had a cartilaginous firmness; the pelvis of both was filled by calculi, the left contained four, and the right but one, which exactly filled it. M. Nysten has described several cases in which suppression of urine was succeeded by copious vomiting of a fluid, in which, he says he detected urea, uric acid, and the other ingredients of urine. Similar cases are related by Pechlin, Valisneri, and others, and in a young man mentioned in the Upsal Transactions, the saliva is said to have exhibited urinous properties for four days, while he was affected with suppression of urine.

TREATMENT.

The proper Ischuria renalis is in general to be considered as an inflammatory affection, and is to be treated according to the circumstances of the particular case by bloodletting, large blisters, warm bath, mild diuretics, especially digitalis given in pretty full doses at short intervals, and perhaps sudorifics. I am doubtful of the effect of turpentine, either by the mouth or by injection; probably in an acute case the tobacco injection might be useful. It would probably be calculated to relieve the inflammatory state of the parts, and might promote the descent of calculi, if the affection proceeded from the presence of them in the ureters. In Dr. Laing's case, the remedies employed were bloodletting repeated three times, saline diuretics, warm bath, and occasional laxatives; and the case terminated favourably, after the secretion had been completely suspended for nine days. M. Raymond has strongly recommended very large blisters across the region of the kidneys, and has described several cases in which a flow of urine soon followed the application of this remedy, after a variety of active practice had been employed in vain. As a last resource, Lieutaud recommends emetics.—*Edinburgh Medical and Surgical Journal.*

IV. MATERIA MEDICA AND PHARMACY.

Dr. COPLAND on *External Irritants.*

Sufficient attention, in our opinion, is not paid to the benefit which will result from varying the external irritants which we employ in the cure of disease: and we consider that it has been too much the practice to view the individuals composing this

class of remedies in the same light, when they ought to be regarded as producing effects very widely different, both upon the part to which they are applied, and also on the diseases in which they are prescribed.

Too much importance has, perhaps, been attached to the discharge which such substances often procure ; and an idea has been too prevalent amongst us, that unless such an effect is produced, no benefit will result from their adoption. For our own parts, we can neither perceive the physiological nor the pathological grounds for such a supposition ; and experience certainly does not favour the opinion. We have seen moxa, and the actual and potential cauteries, but especially the former, very frequently employed by very eminent Practitioners on the Continent ; and their experience has generally shown, that a discharge from the part was rather hurtful than beneficial, and they have accordingly used means to prevent it. There can be no doubt, in many cases, a discharge would tend to impair the energies of the system, and dispose to hectic symptoms, without promoting that derivation of nervous irritation from the part originally affected. The idea of procuring advantage from the scanty evacuation to which such substances sometimes give rise, appears to have originated in the humoral pathology, and to be founded upon no better basis.

We conclude our remarks at present, upon this subject, with the following general inferences, derived from our observations respecting the use of external irritants in disease :—

1. We are of opinion, that the bruised pods of capsicums, cantharides, and mustard, form the best external excitants and irritants, in such cases as are accompanied with sinking of the vital energies, as in the last stage of febrile diseases, dysentery, &c. ; and when no inflammation of an acute character is going on in any part of the system.

2. That this advantage is derived chiefly from the stimulus being more generally diffused over the system ; and that, in addition to their local effects, they are, in some degree, absorbed into the circulation and by this means produce a more permanent excitation, along with a derivation of the morbid actions, from the internal textures to the part artificially inflamed.

3. That artificial eruptions, produced from moxa, tartar emetic ointment, and the potential or actual cauteries, prove less serviceable, under the circumstances just alluded to ; but more beneficial when any particular organ or texture is exclusively affected, whether in an acute, sub-acute, or chronic form ; and more especially after evacuations in the two former classes of ailments ; and most decidedly when those ailments either result

from, or are connected with nervous excitability, or irritability of the muscular fibre.

4. Tartar emetic, moxa, and the cauteries, owe a great share of their efficacy to the permanency of their local effect, owing to the more deeply-seated inflammation which they induce in the integuments of the part, especially in the cutis vera; and from the almost entire absence of the absorption of an irritating cause during the period of their application.

5. That no benefit generally results from any discharge which they can elicit, more especially the latter class of irritants; and, on some occasions, such an effect would be prejudicial, and contrary to the intention which ought, in some cases, to direct their employment.—*Med. Repository.*

II.

MR. EARLE and DR. PHILIP *on Galvanism.*

“Elizabeth Pepperall, aged 17, of fair complexion, and light hair, was admitted into St. Bartholomew’s Hospital in August, 1821, in consequence of an affection of the spine, which had existed for about a year and a half. At the time of her admission, it appeared, that almost all the dorsal and lumbar vertebræ were affected. She had nearly lost all power over her lower extremities and pelvic viscera; and she complained of very severe cramps at the pit of the stomach, and acute pain in the course of the costal nerves, which was much increased by pressure on the ribs, or any attempt at a deep inspiration. Her general health was much deranged; her pulse was very rapid, with occasionally severe palpitation of the heart, and constant dyspnœa. Her digestive powers were greatly impaired, she had no appetite; and could only digest some stale bread and some milk and water. Even this meal was always followed by uneasy sensations at her stomach, and an increase of head-ache, from which she was hardly ever free. Her bowels were obstinately costive, and the urine was scanty, and deposited large quantities of lithate of ammonia.

“She was placed on one of my invalid beds, which enabled her to remain in a state of uninterrupted rest; and after the repeated application of leeches, issues were made on either side of the dorsal spine, and subsequently in the lumbar region. The issues were kept actively open, and the strictest attention was paid to her general health. The spine very gradually became less sensible, and the power over the pelvic viscera and lower extremities slowly returned: still, however, her stomach was incapable of digesting any other food than bread and milk and

water, her head-ache remained nearly unabated, and her breathing was habitually difficult. She was in this state when the galvanism was first administered, (Dec. 19.)

“ A trough containing plates of about three inches was employed. The positive wire was applied to the nape of the neck, the negative a little below the pit of the stomach. No sensation was at first produced by twenty plates ; but after the sensation was excited, she could not endure more than twelve. The first sensation she experienced caused her to take involuntarily a sudden and deep inspiration. The galvanism was applied for about a quarter of an hour, at the end of which time, her breathing became much freer than it had been for many months. Of this she repeatedly expressed herself perfectly certain, at the same time she felt considerable uneasiness at the stomach. She was slightly hysterical, in consequence of the agitation she had experienced, but her breathing was tranquil during the whole evening.

“ With a view to remove the tenderness in the epigastrium, leeches were applied to the region of the stomach, and the whole plan of treatment adapted to the secondary stage of dyspepsia was resorted to. When the tenderness was somewhat abated, the galvanism was repeated with more decided relief to the breathing, and without causing much uneasiness at the stomach.

“ After several applications of it, the relief she experienced in her breathing lasted for two or three days, and at length it was only necessary to repeat it occasionally. The effect of its administration was uniformly the same ; a most sensible and speedy relief from a state of anxious breathing to perfect ease and repose. Its beneficial effects were not, however, confined to the respiration ; the powers of her stomach greatly improved, and she was able to digest a small quantity of meat or the yolk of an egg without pain. As her stomach improved, she lost the distressing head-ache, which had so constantly attended, as at one time to lead me to apprehend the existence of disease in the brain, having met with other cases in which scrofulous affection had existed in the brain and spine at the same time.— Her progress from this time was uniform, and far more rapid than it had been before ; and in about two months, the catamenia, which had been suspended from the commencement of the disease, returned.

“ The patient was sufficiently recovered to leave the hospital, and return to her friends at Dartmouth, early in July ; at which time she was able to walk with very little assistance, and without experiencing the least pain in her back. On reviewing the circumstances of this case, I have not the least hesitation in

stating my decided opinion of the great benefit which was derived from the employment of galvanism, not only in affording temporary relief to the breathing, but in improving the secretions, and thus materially contributing to the ultimate recovery of the patient. I feel particularly happy that the patient was in a public hospital, and that the means were employed in the presence of many intelligent medical friends and pupils, who were all equally satisfied with myself of the essential and permanent benefit which she derived from the administration of galvanism.

"It was employed in two other similar cases in the same hospital, those of Ann Baillies, and Maria May, in which it produced similar good effects, except that in one of these, the improvement of the general health, although not less than in the other cases, did not seem to have the same beneficial effect on the disease of the spine. It was tried in another case of spine disease, which was attended with fits of spasmodic asthma.—These, as I was taught to expect from the observations you have published on the subject, it failed to relieve. It is remarkable, that in the case of Ann Baillies, in which the pulse was from 140 to 150, and very weak, the use of the galvanism always rendered it stronger, and brought it down from 30 to 40 beats in the minute.

"From observing the good effects of galvanism on the secretions of the stomach, I was induced to make a trial of it in a case of deafness, accompanied with a total want of secretion of cerumen in the right ear. Its first application produced a watery secretion, which by perseverance gradually assumed the taste, and all the other characters of cerumen. The hearing was greatly improved in both ears, but how far this was to be ascribed to the restoration of the secretion, is rendered doubtful, in consequence of a tumour having at the same time been removed from the tympanum of the left ear by the repeated application of caustic."

In reference to the above statement, Dr. Wilson Philip remarks—"that in disease of the spinal marrow, galvanism is not only capable of performing the function of the diseased part of this organ, by which the vital actions are restored to a state of health, and the patient's sufferings greatly mitigated; but that, it also, as might *a priori* be expected, by thus improving the general health, indirectly contributes to the cure of the spinal disease. With regard to the last case mentioned by Mr. Earle, in which the secretion of the cerumen was restored by galvanism, this, it is evident, from what has been said, can only happen when the fault consists in a defect of nervous influence, and not in a diseased state of the vessels.—*Journal of Science.*

"When we compare the foregoing report of Mr. Earle with the statements which I have already had occasion to make public, respecting the effects of galvanism in other diseases, may we not hope that if in so few years such has been the result of the employment of this remedy on the principles above laid down, a more extensive experience will still extend the advantages derived from it. I have repeatedly seen its use more successful than any other means in obstinate general nervous debility, in which transmission through the stomach and lungs has still appeared to me the best means of applying it. In certain species of fever, and other cases attended with deficient nervous energy, we have sufficient reason to believe that it will be found a valuable remedy.

"I may close these observations by observing, that when galvanism is not used to such extent as to occasion an inflammatory tendency, I have never seen any bad effect from it, except a sense of languor, similar to the feeling of fatigue, when its employment has been too long continued. The inflammatory tendency produced by it, according to my experience, is always easily removed; is never followed by any serious consequence; and, with a little care, may almost always be prevented. I have repeatedly observed, that when the cure has advanced to a certain point, its judicious employment, so far from causing the inflammatory tendency, has, by improving the state of the secreting surfaces, relieved that caused by the disease."—*Journal of Science.*

MEDICAL LITERATURE OF THE UNITED STATES.

The American Medical Recorder. By JOHN EBERLE, M. D.

VOL. VI. NO. I. JAN. 1823.

ART. I. *Observations on the arguments of the late Professor Rush, in favour of the inflammatory nature of the disease produced by the bite of a Mad Dog.* By JAMES MEASE, M. D.

From an attentive examination of its causes, symptoms, and accidental cures, the late Dr. Rush was led to adopt and defend the opinion that hydrophobia is a malignant state of fever. In support of this hypothesis, it was stated, that the disease in all rabid animals is a fever—that it prevails when malignant fevers are epidemic—that it presents the characteristic symptoms of

the latter disease—that blood drawn presents the same appearances—and that dissection exhibits the same phenomena. It would require but little space to prove the fallacy of those arguments which are founded on analogy, and the insufficiency of those which claim observation for their basis. The disease may be fever in rabid animals, and prevail when malignant fevers are epidemic, but, as Dr. Mease has justly remarked, the analogy of symptoms in the canine genus is not transferable to the human race. If, however, in the latter it presents the usual symptoms of fever, the hypothesis of Dr. Rush will claim more serious consideration. We need not refer our readers to Dr. Mease, to prove how widely they differ; many cases of hydrophobia, presenting no indications of fever, and most cases of the latter exhibiting none of the pathognomonic symptoms of the former. The treatment of this fearful malady is more various than successful. Some prescribe a free use of opium, wine and cinchona, some bleed profusely, while others administer liberal potations of skull-cap, or the *alisma*, till, with some rare exceptions, death puts an end to sufferings, over which art has no control. Dr. Mease is an advocate for stimulants, thinks highly of caustic applied to the spinal column; and recommends, whenever reliance is placed on venesection, that we persist in its use until fainting is produced.

ART. II. *Observations on Artificial Pupil, and the modes of operating for its cure.* By GEORGE FRICK, M. D. of Baltimore.

No operation in ophthalmic surgery requires greater dexterity than the formation of an artificial pupil. It was performed by Cheselden, who introduced a couching needle with one sharp edge through the sclerortica, passed it through the iris, and divided that membrane transversely from the internal to the external angle of the eye. Janin, having observed, that as the inflammation subsided the wound closed, modified the operation of Cheselden, by performing it with a perpendicular instead of transverse section. Like the practice of Cheselden, that of Janin has been sometimes successful, but, in consequence of the re-union of the divided portions of the iris, in the hands of other surgeons, it has more frequently failed. To remedy this defect, Wenzel proposed to cut out a portion of the iris. This operation was modified by Gibson and improved by Professor Beer, who performs it in the following manner. Having with a cataract knife divided the cornea one line in length and as near the sclerotica as possible, the iris is permitted to obtrude through the incision, when it is seized with a hook and clipped off with scissors. It immediately retracts, and a well shaped pupil appears. If the iris adheres to the cornea, the surgeon

introduces through the corneal incision a hook, seizes the pupillary edge of the iris, draws it through the opening, and clips it off. By tearing the iris from the ciliary ligament, an artificial pupil may be formed. This operation has been performed by Schmidt, Scarpa, Reisinger, and others. Through an incision of the cornea a pair of double hooked forceps are introduced, the iris is seized, detached, and drawn through the opening of the cornea, where by the subsequent inflammation and adhesion it is secured. The incision of the iris as performed by Cheselden, is termed *corotomy*; the excision as practised by Wenzel and Beer is named *corectomy*; and the detachment of the iris from the ciliary ligament constitutes *coradylia*sis.*

After describing these several methods of operating, Dr. Frick goes on to point out the circumstances, in which the operation is to be attempted, and the methods best adapted to particular cases. The formation of an artificial pupil should never be attempted, when the structure and colour of the iris are changed, by previous disease; when the retina, vitreous humour, or ciliary body are diseased; when the eye is insensible to light; and when the patient is yet in possession of one perfectly sound eye. The excision of a portion of the iris, is said to be indicated when the lens and its capsule are perfectly sound; and laceration, as performed by Reisinger, when there is much effusion of lymph; or when the cornea is so marked with cicatrices as to render the excision impracticable.

ART. III. *On Cholera Infantum*. Communicated by E. HOWELL, M. D. of Philadelphia.

We have generally found, in the pages of the Medical Recorder, sound observations conveyed in appropriate language; and a careful perusal of the essays, with which it has been enriched, had led us to form a high opinion of those by whom it has been supported, and of the Editor by whom it is so ably conducted. With these impressions we could not but be disappointed in reading the essay of Dr. Howell. It presents nothing new in pathology or practice; but is made up of observations which are trite, practice which is common, and of language which it must be confessed is peculiar to himself. Our readers however must judge for themselves, and the following sentence, in reference to those affections of the brain which occur in the last stages of cholera infantum, is probably a fair specimen of the writer's manner.

* Dr. Frick employs the terms *Coretotomia*, *Coretonectomia*, and *Coretodialysis*, which we should be sorry to see incorporated into the technical language of surgery.

"Although a remission of the urgent symptoms of the original complaint may take place on the supervention of encephalic disturbance, yet the latter is too often only designative of mischief going on in the region of the liver; for though in those constitutionally predisposed to hydrocephalus or other affections of the *cerebrum*, &c. such might ensue, and thus terminate the original complaint, yet more generally the affection of the encephalon suddenly ceasing, the hepatic derangements have become established; thus we cannot be too much on our guard, particularly if the right hypocondrium becomes tumid or painful on pressure."

The remedies recommended, are calomel, the warm bath, stimulating embrocations, anodyne, and mucilaginous injections, and in the latter stages wine and cinchona, the latter being used internally, or in a quilted jacket worn externally.

But observes the writer, "notwithstanding all our boasted remedies, I regret to add that often all are administered without putting an end to its ravages; in such our only resource, the ultimum remedium, lies in the cool air of the country, for to this and to its more equable condition we believe the country air is indebted for its supposed efficacy, as the foul and heated *urbal* atmosphere must continue to prove a constant source of irritation."

We hope that Dr. Eberle, will hereafter examine the papers which come to him "in such a questionable shape," and that Dr. Howell will pay more attention to the style of his next communications.

ART. IV. *An account of the removal of a large Indolent Tumour, situated on the thigh, by the use of Caustic.* By HORATIO G. JAMESON, M. D. Surgeon to the Baltimore Hospital.

A boy 14 years of age, was presented to Dr. Jameson for the treatment of a large tumour situated on the left thigh. It was about twelve inches in length, eight in width, and one and a half thick in the middle. A long needle was passed into the tumour in two or three directions, and into each of the punctures, a thin paste of arsenic, gum arabic and water was injected. At first it gave no pain, and in a few days suppuration was established, when the tumour began to subside. At the end of the fourth week, the injections were suspended, and the patient went home nearly cured. In a little time he was well. The instruments employed were a long seton needle, and a slender tube attached to the extremity of a common syringe.

ART. V. *Experiments on the Sensibility of the surface of the face to light.* By S. COLHOUN, M. D. of Philadelphia.

The experiments were three in number, from which it ap-

peared that persons with their eyes completely covered, are capable of distinguishing darkness from light, and in some instances they are able to point out the precise part that is shaded. From further observations Dr. Colhoun infers that the forehead possesses the perception of light in a much greater degree than the lower part of the face, and that the feeling produced by light varies much at different times.

ART. VI. *Reflections on the Treatment of Fractures of the Lower Extremity, and a Description of a New Apparatus: with Cases.*

By J. AMESBURY, Member of the Royal College of Surgeons in London, &c. &c.

This is a long paper taken from the Quarterly Journal of Foreign Medicine and Surgery. The new apparatus of Mr. Amesbury consists of a curved splint, having a hinge joint corresponding to that of the knee, and a foot piece attached to its lower extremity. The object of this splint is to permit the patient's limb to be flexed at any convenient angle, and at the same time to secure it from all motion, and in this way to combine the advantages of the long splint and straight position of Desault with those of the flexed position recommended by Mr. Pott.

ART. VII. *A singular case of Priapism.* Communicated by DR. JAMES MOORE, of Shelbyville, Kentucky.

In this case the priapism continued without intermission twenty-three days, during which time the patient was not conscious of having slept. In the mean time he was bled repeatedly, purged freely, local scarifications were made, and cold applications were tried without success. It was at length determined to give the latter remedy a full and complete trial; five bladders of cold water were applied and changed as they became warm, and this practice was continued three days before any amendment was perceived. From that time the symptoms abated.

ART. VIII. *Observations on the Good Effects of Oil of Turpentine in Puerperal Fever.* By HENRY PAYNE, M. D. Nottingham.

Since the publication of Dr. Brenan recommending oleum terebinthinæ in puerperal fever, Dr. Payne has adopted the practice with uniform success. He believes that the disease in question is of an inflammatory nature; but thinks the subjects of it are not in a situation to support the loss of blood.

ART. IX. *Memoire Physiologique sur les Maladies Purulentes et Putrides, sur la Vaccine, &c.* Par B. GASPARD, M. D.—*Journal de Physologie, &c.* Par F. MAGENDIE, Membre de l'Institut. Jan. 1822.

Our readers will find this paper in No. I. of our Journal.

ART. X. *Observations on the Character of the Diseases which were the Sequel of the Fever described in the 5th vol. of this Journal.* By JOHN R. LUCAS, M. D. of Brunswick, Virginia.

In this paper Dr. Lucas has given an account of those hepatic intermittents and remittents which he witnessed in Virginia, during the summer of 1822. The patient was first attacked with the usual symptoms of an intermittent paroxysm, not however, attended with any general perspiration; the pulse was small and hard; the tongue generally moist and covered with a white fur. These were succeeded by restlessness, sickness and anxiety about the stomach, and a strong disposition to coma; the bowels were constipated, the pulse continued small and hard, and the tongue became black or of a dark brown. The practice pursued was to let blood occasionally, and to excite and keep up a constant discharge from the bowels. To effect this, four or five grains of calomel were given two or three times a day, and two or three drams of the sulphate of magnesia were given every two hours, and in some instances continued several weeks.

From 1818 to 1821, it appears that an epidemic fever prevailed in Virginia of a most singular character. Dr. Lucas thinks it was occasioned by "congestion and excitement," which was most speedily relieved by an unsparing use of tonics and stimulants. "In very many cases evacuants of no sort were admissible, and in all I believe death would have followed the evacuants before the matter discharged would have assumed a healthy aspect. When added to this, the fact, that in the most violent cases twelve to twenty-four ounces of bark, and two to four quarts of rum were given every day, without previous evacuation and with the happiest effect, I am constrained to believe that the immense flow of bilious matter must have been the effect of mobility growing out of a debility and relaxation of the parts concerned in its secretion." The Doctor's pathology may have been correct, but it should be established by *post mortem* examinations; and we think it incumbent on those who recommend a practice so extraordinary and we may add so extravagant, to furnish the only proof of its propriety, which in such cases is admissible—a series of cases minutely reported. The author hazards one conjecture, which some of our readers will deem extraordinary; he thinks that Armstrong has mistaken typhoid pneumonia for typhus fever, and that he has never seen a genuine case of the latter disease; and the proof of these positions is drawn from the character of the remedial agents which the great English physician employs.

ART. XI. *Observations on the late Epidemic Bilious Fever as it prevailed at Harrisburg, and the adjoining Districts.* By Dr. SAMUEL AGNEW, of Harrisburg, Pennsylvania.

In the present case we have only time to notice the symptoms and treatment of the epidemic at Harrisburg, referring our readers to Dr. Agnew's paper, for much interesting information respecting the weather, the topography of the place, and the diseases, which preceded the fever—which the writer more particularly describes. The latter made its approach in no uncommon form. Langour—chills, succeeded by re-action—frequent, sometimes full and tense pulse—a hot and dry skin—thirst, acute head-ache, pain in the loins and extremities—painful vision, sensibility to noise, and general restlessness were the more common symptoms. These would generally subside with a perspiration, and in some instances a complete remission would ensue.

“In other instances the remission was very indistinct, and scarcely perceptible; but a continuation of febrile excitement, with an aggravation of all the concomitant symptoms, such as more frequent and irregular arterial action, intense thirst, an arid, pungently hot skin, flushing of the face, inflamed, watery eye, a dry, red husky tongue, stupor, and delirium.”

“It was by no means unfrequent, that a fever which commenced with the ordinary symptoms of a remittent, gradually put on the complete character of what I call the typhous state. This was marked by a small, frequent, hobbling, soft, vermicular pulse, great prostration of strength, not much thirst, tongue sometimes furred with white, sometimes nearly natural, at others dry, with a brownish or deep red shining surface, and again black, with deep fissures in the upper surface; teeth covered with sordes, eyes glazy and inanimate, countenance hypocratic, delirium, subsultus tendinum, stupor, skin not much above the natural temperature, sometimes rather cool, lying on the back, with knees drawn up, bowels often torpid, sometimes a diarrhoea, with involuntary stools. Such were the common symptoms which marked this state of fever. But it is not to be understood they were either uniform in their number or violence.”

Emetics, cathartics, and in some cases venesection, were the remedies which Dr. Agnew employed, in the first stages of the fever. When it assumed an intermittent type, bark was next given with freedom and success. In the remittent and continued forms, the evacuations were succeeded by diaphoretics, cold affusion and calomel. When it assumed the typhous state, camphor, volatile alkali, wine and brandy were given with liberality and expedition, accompanied with sinapisms, rubefa-

ciant's and epispastics. These remedies appear to have been singularly successful, for of three hundred patients attended by Dr. Agnew, but three fatal cases occurred—and two of these were too distant to receive the necessary attendance.

ART. XII. *An account of a number of Worms found in the Kidneys of a Hog.* Communicated by DR. EDMUND PORTER, of Frenchtown, New-Jersey.

On taking out the lard of a hog which had been killed three days, "a considerable quantity of purulent matter was discovered exuding from the kidneys. On opening them, I found ten or twelve round worms, resembling the lumbricoides, measuring from two to four inches in length, of a whitish semi-transparent colour, through which could be traced distinctly an intestinal canal containing dark grains of matter. How were the ova of these worms deposited in the kidneys?"

ART. XIII. *A Memoir on Bronchotomy; read before the Medical Society of Maryland, December 1822.* By HORATIO G. JAMESON, M. D. Surgeon to the Baltimore Hospital.

Dr. Jameson justly remarks that there is no subject about which surgical writers more universally agree, than they do as to the safety, the propriety, and the necessity of the operation of bronchotomy. Several cases are noticed, in which it has been successfully performed in the United States, and others are mentioned in which death resulted from its neglect. The operation is performed with facility, and the only difficulty which we have experienced arose from the foreign substance having passed beyond the bifurcation of the bronchial tube, from which by the measures commonly recommended, it could not be dislodged. The mode in which bronchotomy is performed, is sufficiently explained in our elementary works on surgery.

REVIEW.

ART. XIV. *A comparative View of the Sensorial and Nervous Systems in Man and Animals.* By JOHN C. WARREN, M. D. Professor of Anatomy and Surgery in the University at Cambridge. Boston, printed by Joseph B. Ingraham, 1822. 8vo. pp. 152.

The reviewer expresses his obligations to Dr. Warren for the present publication, which contains a condensation of the labours of others on the comparative view of the sensorial and nervous systems of man and animals, illustrated by facts and observations of his own.

Under the head of Literary Intelligence, we observe that Dr. Drake, of Cincinnati, is engaged in composing a work on the diseases of the western country, to which he solicits the attention and co-operation of his professional brethren.